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ABSTRACT

This document is the 27th report in a series begun in 1964. It provides revisions to projections shown in "Projections of Education Statistics to 2007" and includes statistics on elementary and secondary schools and institutions of higher education at the national level. Included are projections for enrollment, graduates, classroom teachers, and expenditures to the year 2008. The report also includes projections of public elementary and secondary enrollment and high school graduates to the year 2008 at the state level. These projections reflect revisions influenced by the 1990 Census with the incorporation of 1996 estimates and latest assumptions for the fertility rate, net immigration, and mortality rate. A methodology section describes the models and assumptions used to develop the national projections, which are based on a cohort survival model, an age-specific enrollment rate model, exponential smoothing models, and econometric models. Most of the projections include three alternatives based on different assumptions about growth paths. Total public and private elementary and secondary enrollment is projected to increase from 51.4 million in 1996 to 54.5 million in 2006, but then total enrollment is projected to decrease to 54.3 million by the year 2008. Higher education is projected to increase from an estimated 14.3 million in 1996 to 16.1 million by 2008. Increases are also projected for high school graduates, the number of bachelor's degrees, the number of classroom teachers, expenditures per pupil, and teacher salaries. Data are presented in 71 figures and 52 tables, with an additional 38 tables in 4 technical appendixes. A glossary and discussion of data sources are included in the technical appendixes. (SLD)

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Projections of Education Statistics to 2008

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NATIONAL CENTER FOR EDUCATION STATISTICS

Projections of Education Statistics to

2008

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Foreword

Projections of Education Statistics to 2008 is the 27th report in a series begun in 1964. This report provides revisions of projections shown in *Projections of Education Statistics to 2007* and includes statistics on elementary and secondary schools and institutions of higher education at the national level. Included are projections for enrollment, graduates, classroom teachers, and expenditures to the year 2008.

In addition, this report includes projections of public elementary and secondary enrollment and high school graduates to the year 2008 at the state level. These projections were produced to provide researchers, policy analysts, and others with state-level projections developed with a consistent methodology. They are not intended to supplant detailed projections prepared in individual states.

The projections presented in this report reflect revisions influenced by the 1990 census. The revised population projections developed by the Bureau of the Census also reflect the incorporation of the 1996 estimates and latest assumptions for the fertility rate, net immigration, and mortality rate.

This report contains a methodology section describing models and assumptions used to develop the national projections. The projections are based on a cohort survival model, an age-specific enrollment rate model, exponential smoothing models, and econometric models. The enrollment rate model uses population estimates and projections from the Bureau of the Census. The exponential smoothing models are based on the mathematical projection of past data patterns into the future. The econometric models use projections of exogenous variables from the WEFA Group, an economic forecasting service. Therefore, assumptions regarding the population and the economy are the key factors underlying the projections of education statistics.

Most of the projections include three alternatives, based on different assumptions about growth paths. Although the first alternative set of projections (middle alternative) in each table is deemed to represent the most likely projections, the low and high alternatives provide a reasonable range of outcomes.

In the forecast summary, key demographic and economic assumptions are presented in chart 1 and selected education statistics are shown in figure 1. A summary of the projections is available in a pocket-sized folder, *Pocket Projections 2008*.

Martin Orland, Associate Commissioner for
Data Development and Longitudinal Studies
April 1998

Acknowledgments

Projections of Education Statistics to 2008 was produced by the National Center for Education Statistics in the Data Development and Longitudinal Studies Group under the general direction of Thomas D. Snyder, Director of the Annual Reports Program. The report was prepared by Debra E. Gerald, Mathematical Statistician, and William J. Hussar, Financial Economist.

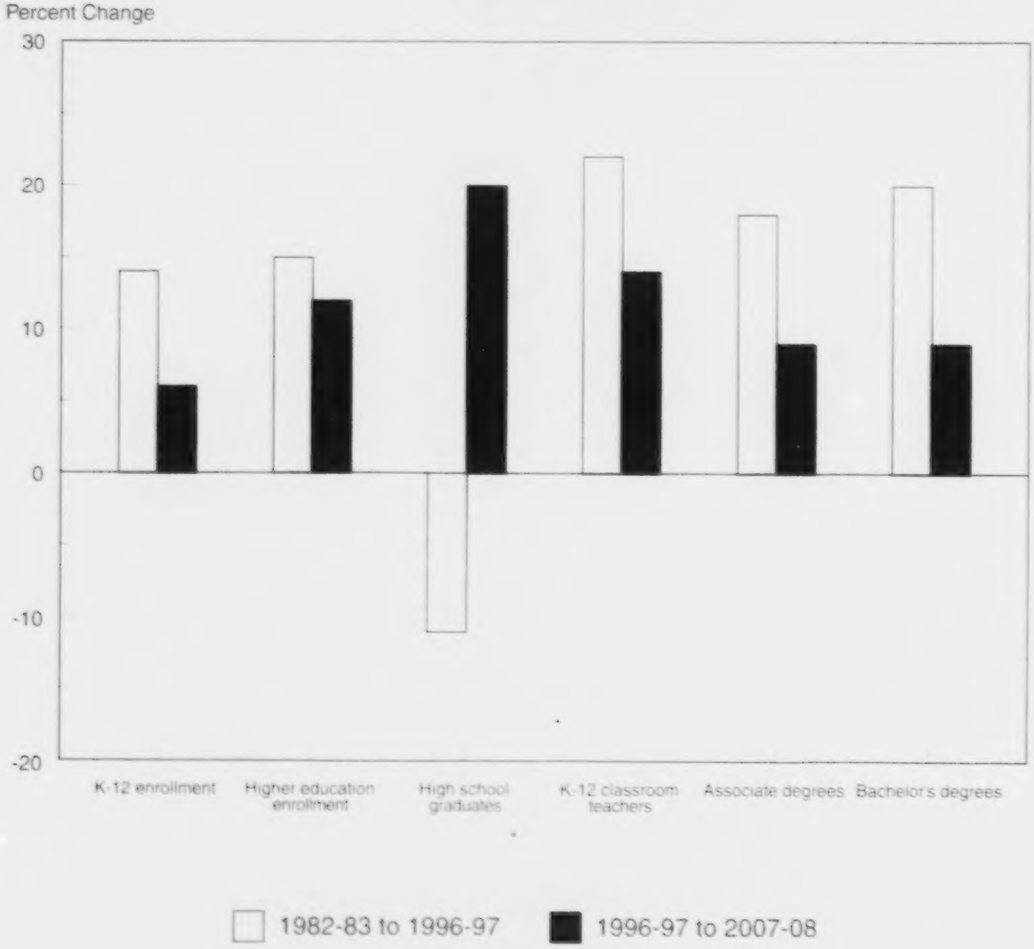
Debra E. Gerald prepared national projections of the following: elementary and secondary enrollment (chapter 1); higher education enrollment (chapter 2); high school graduates (chapter 3); earned degrees conferred (chapter 4); and classroom teachers (chapter 5). She also prepared state-level projections of public elementary and secondary enrollment (chapter 8) and public high school graduates (chapter 9). In addition, she prepared the appendixes explaining the methodologies used to develop these projections and the data sources. William J. Hussar prepared the projections of expenditures of public elementary and secondary schools, including public school teacher salaries (chapter 6) and expenditures of institutions of higher education (chapter 7). In addition, he prepared the appendixes explaining the methodologies used to obtain the expenditure projections, selected portions of the data sources, and glossary.

The technical review was done by Ellen Bradburn of the Education Statistics Services Institute. The adjudication was done by Robert S. Burton of the National Center for Education Statistics. Valuable assistance was also provided by the following reviewers: Carol E. Cohen of The Finance Project; Ronald Danforth of the New York State Education Department; Vance Grant of the National Library of Education, Office of Educational Research and Improvement; Jacqueline King of the American Council on Education; Mark Mittelhauser of the Bureau of Labor Statistics; and Stephen Broughman and William J. Fowler of the National Center for Education Statistics.

The cover was designed by Philip Carr, Media and Information Services, Office of Educational Research and Improvement.

Forecast Summary

Figure 1
Percent change in selected education statistics: 1982-83 to 1996-97 and 1996-97 to 2007-08



Highlights

National

Total public and private elementary and secondary enrollment is projected to increase 6 percent over the projection period.

Total public and private elementary and secondary enrollment is projected to increase from 51.4 million in 1996 to 54.5 million in 2006. Then total enrollment is projected to decrease to 54.3 million by the year 2008, an increase of 6 percent from 1996 (table 1).

Enrollment in institutions of higher education is projected to increase 12 percent over the projection period.

Higher education enrollment is projected to increase from an estimated 14.3 million in 1996 to 16.1 million by the year 2008, an increase of 12 percent. An 11-percent increase is projected under the low alternative and a 13-percent increase is projected under the high alternative (table 3).

The number of high school graduates is projected to increase 20 percent over the projection period.

High school graduates from public and private high schools are projected to increase from 2.6 million in 1995–96 to 3.1 million by 2007–08, an increase of 20 percent (table 26).

Over the projection period, the number of bachelor's degrees is projected to increase 9 percent.

The number of bachelor's degrees is expected to increase from 1,167,000 in 1995–96 to 1,270,000 by 2007–08, an increase of 9 percent (table 28).

The number of doctor's degrees awarded to women is projected to increase 34 percent over the projection period.

Doctor's degrees awarded to women are expected to increase from 17,100 in 1995–96 to 22,900 by 2007–08, an increase of 34 percent (table 30).

The number of classroom teachers is projected to increase 14 percent over the projection period.

Under the middle alternative, the number of classroom teachers is expected to increase from 3.03 million in 1996 to 3.46 million by the year 2008, an increase of 14 percent. An 11-percent increase is projected under the low alternative and a 16-percent increase is projected under the high alternative (table 32).

Current expenditures for public elementary and secondary schools are forecast to increase 36 percent from 1994–95 to 2007–08 in constant dollars.

Under the middle alternative, a 36-percent increase in current expenditures for public elementary and secondary schools is projected for the period from 1994–95 to 2007–08. Under the low alternative, current expenditures are projected to increase by 31 percent; under the high alternative, current expenditures are projected to increase by 41 percent (table 34).

Current expenditures per pupil are also forecast to continue increasing in constant dollars for the period 1994–95 to 2007–08.

Under the middle alternative, current expenditures per pupil in average daily attendance are forecast to increase 24 percent in constant dollars from 1994–95 to 2007–08. Under the low alternative, current expenditures per pupil are projected to increase 19 percent and under the high alternative, current expenditures per pupil are projected to increase 28 percent (table 34).

Teacher salaries are projected to increase 3 percent in constant dollars between 1996–97 and 2007–08.

Under the middle alternative, teacher salaries are projected to increase 3 percent in constant dollars between 1996–97 and 2007–08. A 1-percent increase is projected under the low alternative and a 5-percent increase is projected under the high alternative (table 36).

Current-fund expenditures are projected to increase in constant dollars in both public and private institutions.

Total current-fund expenditures of institutions of higher education are projected to increase 40 percent in constant dollars under the middle alternative from 1994–95 to 2007–08. Total current-fund expenditures are projected to increase at almost the same rate in public institutions and private institutions. A 40-percent increase is projected for public institutions and a 41-percent increase is projected for private institutions (table 37).

State-Level

Public elementary and secondary school enrollment (kindergarten through grade 12) is expected to increase between 1996 and the year 2008, but these increases will vary by region.

Enrollment will increase most rapidly in the West, where total enrollment is expected to rise 16 percent. Enrollment in the South is projected to increase by 7 percent. The Northeast is expected to rise by less than 1 percent, while the Midwest is projected to decrease by 2 percent (table 46).

Changes in public school enrollment are projected to range from large increases of 20 percent or more in some states to decreases in other states between 1996 and 2008.

Public school enrollment is projected to increase 6 percent between 1996 and the year 2008. The most sizable increases are expected in Arizona (21 percent), California (20 percent), Hawaii (18 percent), and New Mexico (16 percent). The largest decreases are expected in the District of Columbia (9 percent), Iowa (8 percent), Maine (9 percent), and West Virginia (8 percent) (table 46).

Growth in the number of graduates from public schools will vary by region.

The number of public high school graduates is projected to increase 20 percent between 1995–96 and 2007–08. Across regions, the West is expected to rise by 26 percent. The Northeast is projected to grow by 23 percent. The South and Midwest are expected to increase by 20 percent and 13 percent, respectively, over the projection period (table 52).

Increases in the number of public high school graduates are projected for most states.

Between 1995–96 and 2007–08, sizable increases are expected in Arizona (35 percent), Florida (45 percent), Hawaii (34 percent), and Nevada (97 percent). Decreases are projected for the District of Columbia (6 percent), West Virginia (13 percent), and Wyoming (7 percent) (table 52).

Chart 1.—Summary of forecast assumptions to 2008

Variable	Middle alternative	Low alternative	High alternative
Demographic Assumptions			
Population	Projections are consistent with the Census Bureau middle series estimates, which assume a fertility rate of 2.10 births per woman by the year 2008, a net immigration of 820,000 per year, and a further reduction in the mortality rate.	Same as middle alternative	Same as middle alternative
18-24 year-old population	Average annual growth rate of 1.4%	Same as middle alternative	Same as middle alternative
25-29 year-old population	Average annual growth rate 0.1%	Same as middle alternative	Same as middle alternative
30-34 year-old population	Average annual decline of 1.5%	Same as middle alternative	Same as middle alternative
35-44 year-old population	Average annual decline of 0.7%	Same as middle alternative	Same as middle alternative
Public Elementary Enrollment	Average annual growth rate of 0.1%	Same as middle alternative	Same as middle alternative
Public Secondary Enrollment	Average annual growth rate of 1.1%	Same as middle alternative	Same as middle alternative
Undergraduate Enrollment	Average annual growth rate of 1.1%	Average annual growth rate of 1.0%	Average annual growth rate of 1.2%
Graduate Enrollment	Average annual growth rate of 0.2%	Average annual growth rate of 0.02%	Average annual growth rate of 0.2%
First-professional Enrollment	Average annual growth rate of 0.03%	Average annual decline of 0.09%	Average annual growth rate of 0.1%
Full-time-equivalent Enrollment	Average annual growth rate of 1.2%	Average annual growth rate of 1.1%	Average annual growth rate of 1.3%
Economic Assumptions			
Disposable Income per Capita in Constant Dollars	Annual percent changes range between 1.1% and 1.9% with an annual compound growth rate of 1.5%.	Annual percent changes range between 0.7% and 1.7% with an annual compound growth rate of 1.1%.	Annual percent changes range between 1.4% and 2.3% with an annual compound growth rate of 1.8%.
Education Revenue Receipts from State Sources per Capita in Constant Dollars	Annual percent changes range between 0.4% and 2.8% with an annual compound growth rate of 1.1%.	Annual percent changes range between 0.0% and 2.8% with an annual compound growth rate of 0.9%.	Annual percent changes range between 0.5% and 2.8% with an annual compound growth rate of 1.4%.
Inflation Rate	Inflation rate ranges between 2.5% and 3.3%.	Inflation rate ranges between 2.5% and 3.7%.	Inflation rate ranges between 2.3% and 3.0%.
Personal Taxes and Nontax Receipts to State and Local Governments per Capita in Constant Dollars	Annual percent changes range between 0.9% and 2.5% with an annual compound growth rate of 1.6%.	Annual percent changes range between 0.2% and 2.0% with an annual compound growth rate of 1.3%.	Annual percent changes range between 1.6% and 3.1% with an annual compound growth rate of 2.1%.
Sum of Personal Taxes and Nontax Receipts and Indirect Business Taxes and Tax Accruals (Excluding Property Taxes) to State and Local Governments per Capita in Constant Dollars	Annual percent changes range between 1.2% and 2.2% with an annual compound growth rate of 1.7%.	Annual percent changes range between 0.5% and 1.8% with an annual compound growth rate of 1.2%.	Annual percent changes range between 1.7% and 2.7% with an annual compound growth rate of 2.2%.
Unemployment Rate (Men)			
Age 18 to 19	Remains between 15.7% and 18.2%.	Remains between 15.7% and 19.3%.	Remains between 15.6% and 17.5%.
Age 20 to 24	Remains between 8.6% and 10.0%.	Remains between 8.6% and 10.8%.	Remains between 8.4% and 9.5%.
Age 25 & over	Remains between 3.7% and 4.7%.	Remains between 3.7% and 5.2%.	Remains between 3.7% and 4.4%.
Unemployment Rate (Women)			
Age 18 to 19	Remains between 13.0% and 14.1%.	Remains between 13.0% and 14.6%.	Remains between 12.9% and 13.6%.
Age 20 to 24	Remains between 8.6% and 9.2%.	Remains between 8.6% and 9.6%.	Remains between 8.4% and 8.9%.
Age 25 & over	Remains between 4.1% and 4.6%.	Remains between 4.0% and 4.8%.	Remains between 4.0% and 4.4%.

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Introduction

Guide to This Edition

This edition of *Projections of Education Statistics to 2008* provides projections for key education statistics. This edition includes statistics on enrollment, graduates, classroom teachers, and expenditures in elementary and secondary schools and institutions of higher education. For the Nation, the tables, figures, and text contain data on enrollment, teachers, graduates, and expenditures for the past 14 years and projections to the year 2008. For the 50 States and the District of Columbia, the tables, figures, and text contain data on projections of public school elementary and secondary enrollment and public high school graduates to the year 2008. Similar methodologies were used to obtain a uniform set of projections for the 50 states and the District of Columbia. These projections are further adjusted to agree with the national projections of public elementary and secondary school enrollment and public high school graduates appearing in this report. These projections reflect 1996 estimates and population projections based on the 1990 census. Appendix A describes the methodology and assumptions used to develop the projections. Appendix B contains tables of supplementary data. Data sources are presented in appendix C. Appendix D is a glossary of terms.

Limitations of Projections

Projections of time series usually differ from the final reported data due to errors from many sources. This is because of the inherent nature of the statistical universe from which the basic data are obtained and the properties of projection methodologies, which depend on the validity of many assumptions. Therefore, alternative projections are shown for most statistical series to denote the uncertainty involved in making projections. These alternatives are not statistical confidence limits, but instead represent judgments made by the authors as to reasonable upper and lower bounds. Alternative projections are presented for higher education enrollment, classroom teachers, and expenditures of public elementary and secondary schools and institutions of higher education.

Chapter 1

Elementary and Secondary Enrollment

Between 1996 and the year 2008, enrollment will increase in elementary and secondary schools. The primary reason for the increase is the rising number of annual births between 1977 and 1990—sometimes referred to as the baby boom echo (table B1 and figure 2). The 3- to 5-year-old population is projected to decline over most of the projection period (table B2 and figure 3.) However, growth in the school-age populations is expected over the next 12 years (table B3 and figures 4 and 5). In 1997 and beyond, increases in the 5- to 13-year-old population are expected to cause rises in elementary enrollment through the year 2002. The increase in the 14- to 17-year-old population, which started in 1991, will continue to influence the growth in secondary enrollment over the projection period.

Elementary and Secondary Enrollment

In response to an increase in the 5- to 17-year-old population, total enrollment in public and private elementary and secondary schools increased from 44.9 million in 1984 to 51.4 million in 1996, an increase of 14 percent (table 1 and figure 6). Total enrollment is projected to increase for most of the projection period to 54.3 million by the year 2008, an increase of 6 percent from 1996.

Enrollment, by Grade Group

Enrollment in grades K–8 increased from 31.2 million in 1984 to 37.3 million in 1996, an increase of 19 percent. Enrollment in grades K–8 is projected to increase to 38.8 million in 2002 and 2003. Then, it is expected to decline slightly to 38.0 million by the year 2008, still reflecting an increase of 2 percent from 1996. Enrollment in grades 9–12 decreased from 13.7 million in 1983 to 12.5 million in 1990, a decrease of 9 percent. It then increased to 14.1 million in 1996. By the year 2008, enrollment in grades 9–12 is projected to rise for most of the projection period to 16.2 million, an increase of 15 percent from 1996. Since enrollment rates for the school-age populations are nearly 100 percent for elementary grades and junior-high grades and close to 90 percent for high school grades, the historical and projected patterns of decline and growth in enrollment in grades K–8 and grades 9–12 reflect changes in the sizes of the 5- to 13-year-old population and the 14- to 17-year-old population.

Enrollment, by Control of School

Enrollment in public elementary and secondary schools increased from 39.2 million in 1984 to an estimated 45.6 million in 1996, an increase of 16 percent (figure 7). Enrollment in public schools is projected to increase to 48.2 million by the year 2008, an increase of 6 percent from 1996.

Projections of enrollments in public elementary and secondary schools are based on projected grade retention rates. The retention rates for grades 2 through 10 are all close to 100 percent. Rates for grade 6 to grade 7 and grade 8 to grade 9 are significantly over 100 percent. Traditionally, these are the grades in which large numbers of private elementary students transfer to public secondary schools. The retention rates for grades 11 to 12 are about 90 percent. The grade retention rates are assumed to be constant throughout the projection period.

Since the mid-1970s, enrollment in private elementary and secondary schools has fluctuated between 5.0 million and 5.7 million. In 1996, an estimated 5.8 million students were enrolled in private elementary and secondary schools. Enrollment in private schools is projected to increase to around 6.1 million by the year 2008, an increase of 5 percent from 1996.

Projections of private school enrollment were derived using public school enrollment data. From 1970 to 1995, the ratio of private school enrollment to public school enrollment was calculated for grades K–8 and grades 9–12. These ratios were projected using single exponential smoothing, yielding a constant value over the projection period. This constant was applied to projections of public school enrollment for grades K–8 and 9–12 to yield projections of private school enrollment by grade group. By organizational level, it was assumed that enrollment for grades K–8 was equal to elementary enrollment and enrollment for grades 9–12 was equal to secondary enrollment. This method assumes that the future pattern in the trend of private school enrollment will be the same as that in public school enrollment. However, a number of factors could alter the assumption of a constant ratio over the projection period. For more information, see appendix A, section A.1.

Enrollment, by Grade Group and Control of School

Enrollment by grade group in public elementary and secondary schools shows trends similar to those of total enrollment. Enrollment in grades K–8 of public schools increased from 26.9 million in 1984 to 32.8 million in 1996. Enrollment in grades K–8 of public schools is projected to increase to 34.1 million in 2002 and 2003. Then, it is expected to decrease to 33.5 million by the year 2008, still an increase of 2 percent from 1996. Enrollment in grades 9–12 of public schools decreased from 12.3 million in 1983 to 11.3 million in 1990, a decrease of 8 percent. Then, it increased to 12.9 million in 1996. Thereafter, 9–12 enrollment is expected to increase to 14.7 million by the year 2008, an increase of 15 percent from 1996.

Enrollment by grade group in private elementary and secondary schools will show patterns similar to trends in enrollment in public schools over the projection period by virtue of the private school enrollment projection methodology. The methodology assumes that private school enrollment will reflect trends in public school enrollment. Enrollment in grades K–8 of private schools is projected to increase from an estimated 4.5 million in 1996 to 4.6 million by the year 2008, an increase of 2 percent. Enrollment in grades 9–12 of private schools is projected to increase from an estimated 1.3 million in 1996 to 1.5 million by the year 2008, an increase of 15 percent.

Enrollment, by Organizational Level

Enrollments may also be aggregated by the level of school attended by students. The reported enrollment in elementary schools is smaller than enrollment in kindergarten through grade 8 because it excludes enrollment in grades 7 and 8 in secondary schools. Enrollment in elementary schools increased from 28.0 million in 1983 to 34.2 million in 1996, an increase of 22.5 percent (table 2). Enrollment in elementary schools is expected to continue to increase to 35.5 million in the year 2001, before declining to 34.8 million by the year 2008, still an increase of 2 percent from 1996. Enrollment in secondary schools, including 7th and 8th graders in secondary schools, decreased from 17.0 million in 1983 to 15.3 million in 1990, a decrease of 10 percent. Then, this number increased by 12 percent to 17.2 million in 1996. Enrollment in secondary schools is projected to rise to 19.5 million by the year 2008, an increase of 13 percent from 1996.

Figure 2
Annual number of births, with projections: 1948 to 2008

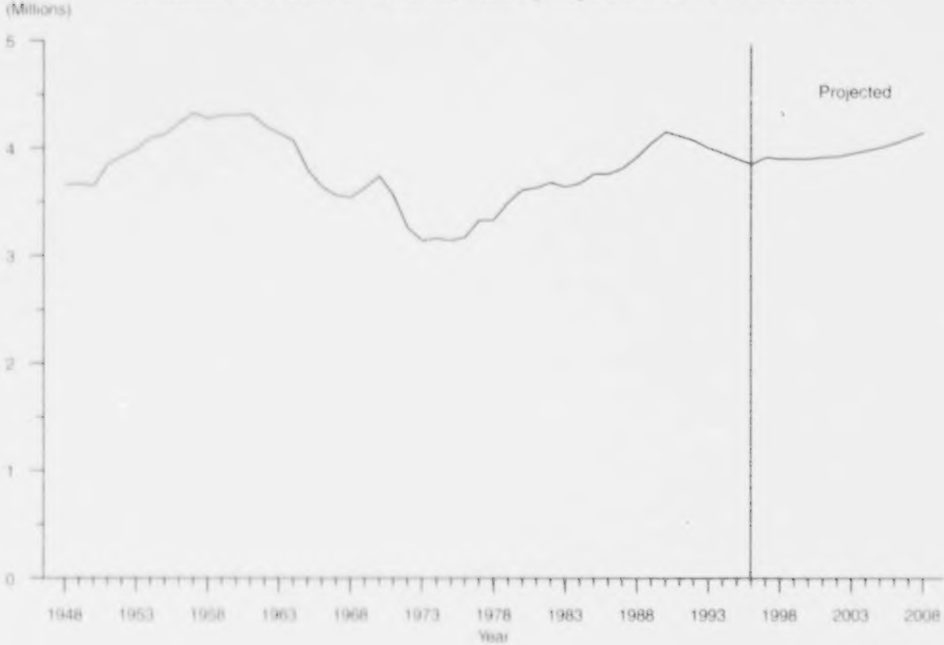

Figure 3
3- to 5-year-old population, with projections: 1983 to 2008

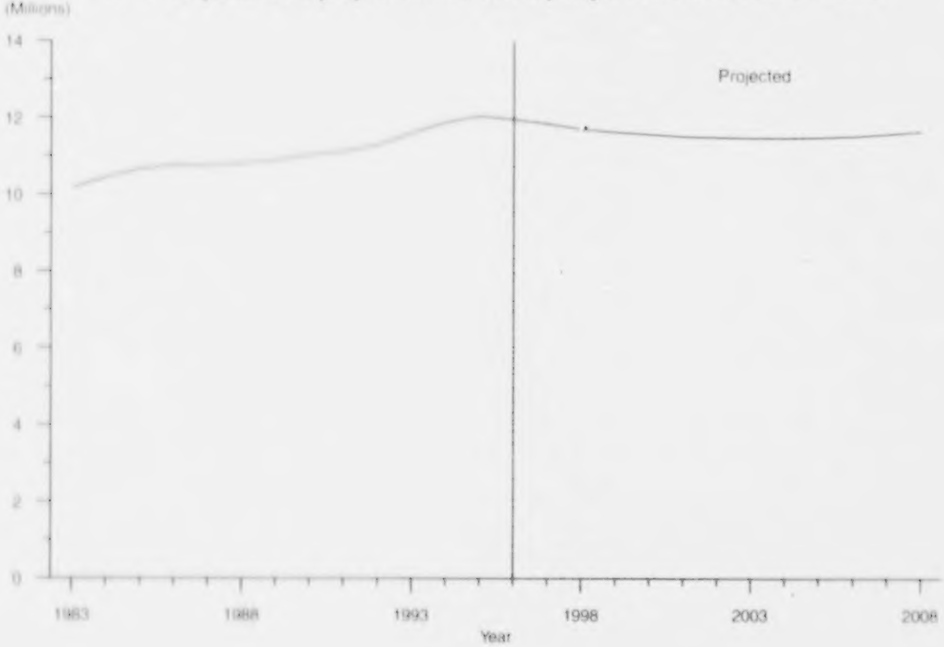

Figure 4
5- to 17-year-old population, with projections: 1983 to 2008

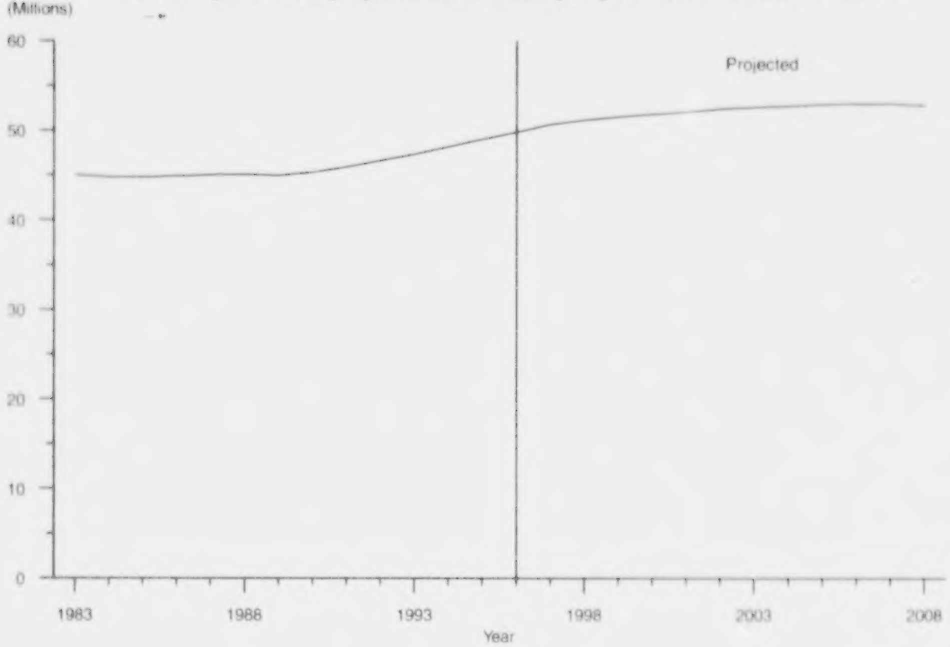

Figure 5
School-age populations, with projections: 1983 to 2008

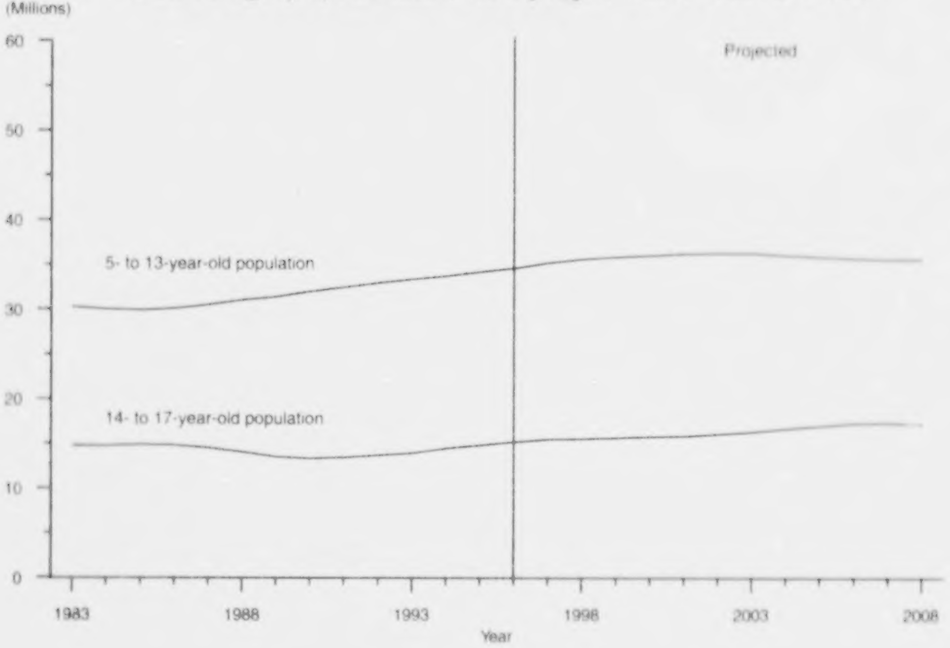

Figure 6

Enrollment in elementary and secondary schools, by grade level, with projections: Fall 1983 to fall 2008

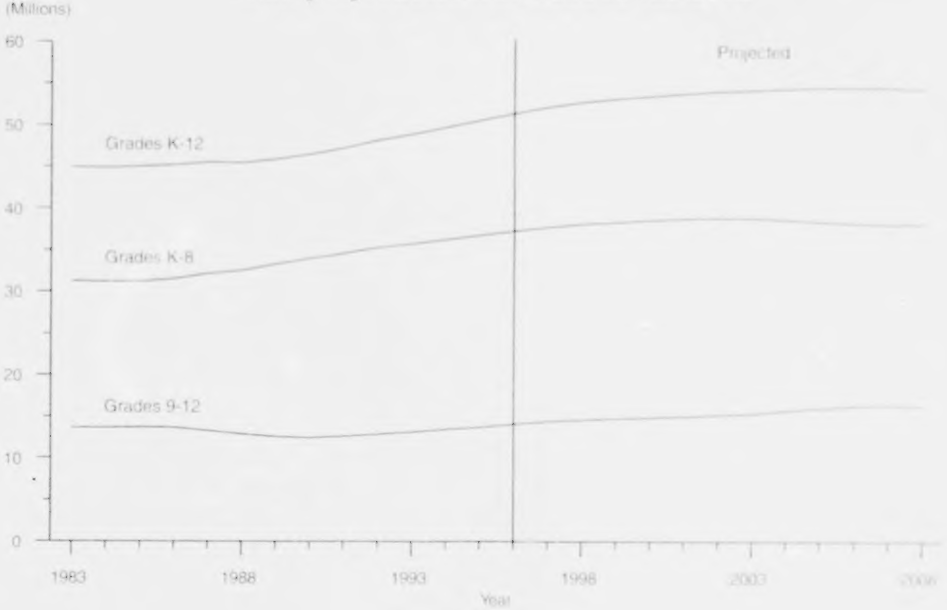

Figure 7

Enrollment in elementary and secondary schools, by control of institution, with projections: Fall 1983 to fall 2008

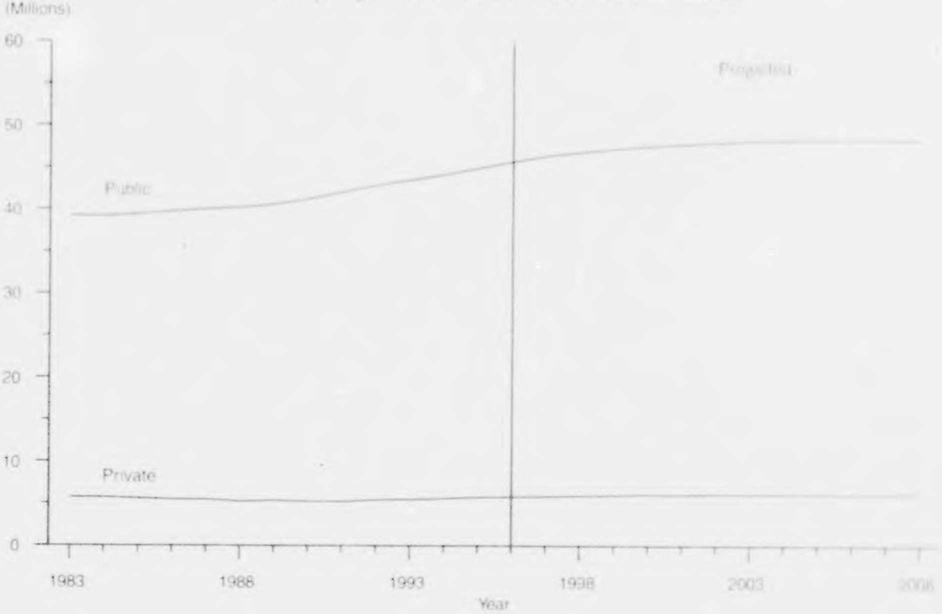

Table 1.—Enrollment in grades K–8[1] and 9–12 of elementary and secondary schools, by control of institution, with projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total			Public			Private		
	K–12[1]	K–8[1]	9–12	K–12[1]	K–8[1]	9–12	K–12[1]	K–8[1]	9–12
1983	44,967	31,296	13,671	39,252	26,981	12,271	5,715	4,315	1,400
1984	44,908	31,205	13,704	39,208	26,905	12,304	[2]5,700	[2]4,300	[2]1,400
1985	44,979	31,229	13,750	39,422	27,034	12,388	5,557	4,195	1,362
1986	45,205	31,536	13,669	39,753	27,420	12,333	[2]5,452	[2]4,116	[2]1,336
1987	45,488	32,165	13,323	40,008	27,933	12,076	[2]5,479	[2]4,232	[2]1,247
1988	45,430	32,537	12,893	40,189	28,501	11,687	[3]5,241	[3]4,036	[3]1,206
1989	45,898	33,314	12,583	40,543	29,152	11,390	[3]5,355	[3]4,162	[3]1,193
1990	46,448	33,973	12,475	41,217	29,878	11,338	[3]5,232	[3]4,095	[3]1,137
1991	47,246	34,580	12,666	42,047	30,506	11,541	[3]5,199	[3]4,074	[3]1,125
1992	48,198	35,300	12,898	42,823	31,088	11,735	[3]5,375	[3]4,212	[3]1,163
1993	48,936	35,784	13,152	43,465	31,504	11,961	[3]5,471	[3]4,280	[3]1,191
1994	49,707	36,258	13,449	44,111	31,898	12,213	[3]5,596	[3]4,360	[3]1,236
1995	50,540	36,772	13,769	44,840	32,341	12,500	[3]5,700	[3]4,431	[3]1,269
1996[4]	51,413	37,264	14,149	45,630	32,778	12,852	5,783	4,486	1,297
					Projected				
1997	52,175	37,751	14,424	46,308	33,206	13,103	5,867	4,545	1,322
1998	52,718	38,110	14,608	46,792	33,522	13,270	5,927	4,588	1,339
1999	53,112	38,338	14,774	47,143	33,722	13,420	5,970	4,616	1,354
2000	53,445	38,543	14,902	47,439	33,903	13,537	6,006	4,640	1,366
2001	53,736	38,716	15,020	47,698	34,055	13,643	6,038	4,661	1,378
2002	53,987	38,795	15,192	47,924	34,124	13,800	6,063	4,671	1,392
2003	54,153	38,795	15,358	48,075	34,124	13,951	6,078	4,671	1,407
2004	54,308	38,606	15,702	48,221	33,958	14,263	6,087	4,648	1,439
2005	54,426	38,376	16,050	48,335	33,756	14,579	6,091	4,620	1,471
2006	54,457	38,181	16,276	48,368	33,584	14,785	6,088	4,597	1,491
2007	54,425	38,073	16,352	48,342	33,489	14,854	6,082	4,584	1,498
2008	54,268	38,034	16,234	48,201	33,455	14,746	6,067	4,579	1,488

[1] Includes most kindergarten and some nursery school enrollment.

[2] Estimated on the basis of past data.

[3] Estimate is from the Early Estimates survey.

[4] Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; "Private Elementary and Secondary Education, 1983: Enrollment, Teachers, and Schools," *NCES Bulletin*, December 1984; 1985 Private School Survey; "Key Statistics for Private Elementary and Secondary Education: School Year 1988–89," *Early Estimates*; "Key Statistics for Private Elementary and Secondary Education: School Year 1989–90," *Early Estimates*; "Key Statistics for Private Elementary and Secondary Education: School Year 1990–91," *Early Estimates*; "Public and Private Elementary and Secondary Education Statistics: School Year 1991–92," *Early Estimates*; and "Public and Private Elementary and Secondary Education Statistics: School Year 1992–93," *Early Estimates*. (This table was prepared October 1997.)

Table 2.—Enrollment in elementary and secondary schools, by organizational level and control of institution, with projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total			Public			Private		
	K-12[1]	Elementary	Secondary	K-12[1]	Elementary	Secondary	K-12[1]	Elementary	Secondary
1983	44,967	27,950	17,017	39,252	23,635	15,617	5,715	4,315	1,400
1984	44,908	28,042	16,866	39,208	23,742	15,466	[2]5,700	[2]4,300	[2]1,400
1985	44,979	28,330	16,649	39,422	24,135	15,287	5,557	4,195	1,362
1986	45,205	28,613	16,592	39,753	24,497	15,256	[2]5,452	[2]4,116	[2]1,336
1987	45,488	29,447	16,040	40,008	25,215	14,793	[2]5,479	[2]4,232	[2]1,247
1988	45,430	29,776	15,654	40,189	25,740	14,448	[2]5,241	[2]4,036	[2]1,206
1989	45,898	30,570	15,328	40,543	26,408	14,135	[2]5,355	[2]4,162	[2]1,193
1990	46,448	31,145	15,304	41,217	27,050	14,167	[2]5,232	[2]4,095	[2]1,137
1991	47,246	31,669	15,577	42,047	27,595	14,452	[2]5,199	[2]4,074	[2]1,125
1992	48,198	32,317	15,881	42,823	28,105	14,718	[2]5,375	[2]4,212	[2]1,163
1993	48,936	32,806	16,130	43,465	28,526	14,939	[3]5,471	[3]4,280	[3]1,191
1994	49,707	33,340	16,397	44,111	28,950	15,161	[3]5,596	[3]4,390	[3]1,236
1995	50,540	33,860	16,680	44,840	29,429	15,411	[3]5,700	[3]4,431	[3]1,269
1996[4]	51,413	34,239	17,174	45,630	29,753	15,877	5,783	4,486	1,297
					Projected				
1997	52,175	34,682	17,494	46,308	30,136	16,172	5,867	4,545	1,322
1998	52,718	35,006	17,712	46,792	30,418	16,374	5,927	4,588	1,339
1999	53,112	35,227	17,885	47,143	30,612	16,531	5,970	4,616	1,354
2000	53,445	35,396	18,049	47,439	30,756	16,683	6,006	4,640	1,366
2001	53,736	35,513	18,223	47,698	30,852	16,846	6,038	4,661	1,376
2002	53,987	35,495	18,492	47,924	30,824	17,100	6,063	4,671	1,392
2003	54,153	35,408	18,745	48,075	30,737	17,338	6,078	4,671	1,407
2004	54,308	35,215	19,094	48,221	30,566	17,655	6,087	4,649	1,439
2005	54,426	35,025	19,401	48,335	30,405	17,930	6,091	4,620	1,471
2006	54,457	34,877	19,579	48,368	30,281	18,088	6,088	4,597	1,492
2007	54,425	34,797	19,628	48,342	30,213	18,130	6,082	4,584	1,498
2008	54,268	34,775	19,492	48,201	30,196	18,005	6,067	4,579	1,488

[1] Includes most kindergarten and some nursery school enrollment.
[2] Estimated on the basis of past data.
[3] Estimate is from the Early Estimates survey.
[4] Projected.

NOTE: Historical numbers may differ from those in previous editions. For private schools, it was assumed that numbers for elementary are the same as those in table 1 for grades K-8, and numbers for secondary are the same as those in table 1 for grades 9-12. Designation of grades as elementary or secondary varies from school to school. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; "Private Elementary and Secondary Education, 1983: Enrollment, Teachers, and Schools," *NCES Bulletin*, December 1984; 1985 Private School Survey; "Key Statistics for Private Elementary and Secondary Education: School Year 1988-89," *Early Estimates*; "Key Statistics for Private Elementary and Secondary Education: School Year 1989-90," *Early Estimates*; "Key Statistics for Private Elementary and Secondary Education: School Year 1990-91," *Early Estimates*; "Public and Private Elementary and Secondary Education Statistics: School Year 1991-92," *Early Estimates*; and "Public and Private Elementary and Secondary Education Statistics: School Year 1992-93," *Early Estimates*. (This table was prepared October 1997.)

Chapter 2

Higher Education Enrollment

Enrollment in institutions of higher education* is expected to rise between 1996 and the year 2008. Changes in age-specific enrollment rates and college-age populations will affect enrollment levels over the next 12 years (figures 8 and 9). The most important factor in the projected rise of college enrollment is the projected increase of 18 percent in the traditional college-age population of 18- to 24-year-olds (table B4). The 25- to 29-year-old population is projected to decrease by 10 percent between 1996 and 2002, and then increase by 13 percent between 2002 and 2008. The 30- to 34-year-old population will decrease by 17 percent. The 35- to 44-year-old population will increase by 3 percent between 1996 and 1999, and then decrease by 10 percent between 1999 and 2008. The increases in the younger population are expected to offset the loss of students from the older populations, thereby contributing to the increases in college enrollment over the projection period.

Total Higher Education Enrollment

In the late 1970s and early 1980s, older students, primarily women and part-time students, began to enroll in greater numbers. As a result, college enrollment stood at 12.5 million in 1983. In 1984 and 1985, enrollment declined to 12.2 million. Then it increased, reaching 14.5 million in 1992. By 1996, it had decreased to an estimated 14.3 million (table 3 and figure 10). Under the middle alternative, college enrollment is projected to rise to 16.1 million by the year 2008, an increase of 12 percent from 1996. This will represent an average annual growth rate of 1.0 percent over the projection period. Between 1996 and 2002, college enrollment is projected to increase at an average annual growth rate of 0.8 percent. Between 2002 and 2008, it will grow at an average annual growth rate of 1.1 percent (figure 11). The 18- to 24-year-old population is projected to increase 18 percent by the year 2008. This increase in the younger population is expected to offset somewhat the expected decline in the number of 25- to 34-year-olds enrolled in college.

The following tabulations show key enrollment statistics: (1) the average annual rate of growth (in percent) for 1983–96 and alternative projected rates of change for 1996–2008 and (2) average annual rates of change for 1983–90 and 1990–96 and the middle alternative projected rates of change for 1996–2002 and 2002–2008. (Calculations are based on unrounded numbers. A percent of 0.0 indicates that the number is between 0.0 and 0.05.)

Average annual rate of change (in percent)

	1983–96	Projected 1996–2008		
		Low	Middle	High
Total	1.1	0.8	1.0	1.0
Men	0.6	0.7	0.8	0.8
Women	1.7	1.0	1.1	1.2
Full-time	0.8	1.3	1.4	1.5
Part-time	1.6	0.3	0.4	0.4
Public	1.1	0.8	0.9	1.0
Private	0.9	0.9	1.0	1.1
4-year	1.0	0.9	1.1	1.2
2-year	1.3	0.7	0.8	0.9
Undergraduate	1.0	1.0	1.1	1.2
Graduate	1.6	0.0	0.2	0.2
First-professional	0.2	-0.1	0.0	0.1
Full-time-equivalent	0.9	1.1	1.2	1.3

Average annual rate of change (in percent)

(Middle alternative projections)

	1983–90	1990–96	Projected	
			1996–2002	2002–2008
Total	1.3	0.6	0.8	1.1
Men	0.8	0.1	0.6	1.0
Women	2.3	1.1	1.0	1.2
Full-time	1.1	0.6	1.2	1.6
Part-time	2.0	0.7	0.3	0.4
Public	1.6	0.5	0.6	1.1
Private	1.0	0.9	0.8	1.2
4-year	1.3	0.4	0.9	1.2
2-year	1.8	1.0	0.7	0.9
Undergraduate	1.4	0.5	1.0	1.2
Graduate	2.4	1.4	-0.2	0.5
First-professional	-0.3	0.7	-1.0	1.1
Full-time-equivalent	1.2	0.6	1.0	1.4

Under the low alternative, college enrollment is projected to increase from an estimated 14.3 million in 1996 to 15.9 million by the year 2008. This will represent an average annual growth rate of 0.8 percent, for an increase of 11 percent over the projection period.

Under the high alternative, college enrollment is expected to increase from an estimated 14.3 million in 1996 to 16.2 million by the year 2008. This will represent an average annual growth rate of 1.0 percent, for an increase of 13 percent over the projection period.

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*This term applies mainly to those institutions that provide study beyond secondary school and that offer programs terminating in an associate, baccalaureate, or higher degree.

Higher education enrollment projections were based on projected enrollment rates, by age and sex, which were then applied to population projections by age and sex developed by the Bureau of the Census. The middle series population projections, which assume middle fertility and net immigration, were used. The age-specific enrollment rates by sex and attendance status were projected based on an econometric estimation of relationships to relevant macroeconomic variables such as income and unemployment rates, proxies for relative earnings, by age group.

Three alternative projections of enrollment in institutions of higher education were developed to indicate the range of possible outcomes. The middle alternative assumes that the age-specific enrollment rates of men and women enrolled full-time are a function of dummy variables by age, log of four-period weighted average of real disposable income per capita, and log unemployment rate by age group. The middle alternative assumes that the age-specific enrollment rates of men and women enrolled part-time are a function of dummy variables by age and log of four-period weighted average of real disposable income per capita. These relationships will continue through 2008. The low and high alternatives were developed using the WEFA, Inc. pessimistic (low) and optimistic (high) scenarios for the projections of disposable income and unemployment rates. For more information, see appendix A, section A.1.

Enrollment, by Sex of Student

Women played a major role in the increase of enrollment between 1983 and 1996. The enrollment of women in college increased from 6.4 million in 1983 to an estimated 8.0 million in 1996, representing an average annual growth rate of 1.7 percent, for a 25-percent increase over the period (figure 12). Under the middle alternative, enrollment of women is expected to increase to 9.2 million by the year 2008, an increase of 14 percent from 1996. This will represent a growth rate of 1.1 percent per year. The rate of growth will be lower during the first half of the projection period (1996–2002) than during the second half (2002–2008), 1.0 percent per year versus 1.2 percent per year (figure 13). As a share of total college enrollment, women were 56 percent of all college students in 1996 compared with 52 percent in 1983. Women are expected to increase their share to 57 percent of college enrollment in the year 2008. Under the low alternative, enrollment of women is expected to increase from 8.0 million in 1996 to 9.0 million by the year 2008, representing a growth rate of 1.0 percent per year. Under the high alternative, enrollment of women is expected to increase from 8.0 million in 1996 to 9.3 million by the year 2008, representing a growth rate of 1.2 percent per year.

The enrollment of men in college decreased from 6.0 million in 1983 to 5.8 million in 1985. Then it increased to 6.5 million in 1992, before decreasing to an estimated 6.3 million in 1996. Under the middle alternative, enrollment of men is expected to increase to 6.9 million by the year 2008, a 10-percent increase from 1996, for an average annual growth rate of 0.8 percent. Under the low alternative, enrollment of men is expected to increase from 6.3 million in 1996 to slightly under 6.9 million by the year 2008, representing a growth rate of 0.7 percent per year. Under the high alternative, enrollment of men is expected to increase from 6.3 million in 1996 to over 6.9 million by the year 2008, representing a growth rate of 0.8 percent per year.

Enrollment, by Attendance Status

Full-time enrollment increased from 7.3 million in 1983 to an estimated 8.1 million in 1996 (figure 14). This is an average annual growth rate of 0.8 percent, for an increase of 11 percent over the period. Under the middle alternative, full-time enrollment is expected to increase another 18 percent to 9.6 million by the year 2008, representing an average annual growth rate of 1.4 percent. Over the projection period, the growth rate for the 1996–2002 period will be lower than the growth rate for the 2002–2008 period, 1.2 percent per year versus 1.6 percent per year (figure 15). Under the low alternative, full-time enrollment is expected to increase from 8.1 million in 1996 to 9.4 million by the year 2008, representing a growth rate of 1.3 percent per year. Under the high alternative, full-time enrollment is expected to increase from 8.1 million in 1996 to 9.7 million by the year 2008, representing a growth rate of 1.5 percent per year. Full-time enrollment is expected to rise at a faster rate than part-time enrollment because of the influx of young traditional college-age students who tend to go to college full-time.

Part-time enrollment increased from 5.2 million in 1983 to an estimated 6.2 million in 1996. This is an average annual growth rate of 1.4 percent, for an increase of 20 percent over the period. Under the middle alternative, part-time enrollment is expected to increase at an average annual growth rate of 0.4 percent and reach 6.5 million by the year 2008, for an increase of 4 percent over the projection period. The growth rate for part-time enrollment during the 1996–2002 period will be less than the growth rate for the 2002–2008 period, 0.3 percent versus 0.4 percent. Under the low alternative, part-time enrollment is expected to increase from 6.2 million in 1996 to 6.4 million by the year 2008, representing a growth rate of 0.3 percent per year. Under the high alternative, part-time enrollment is expected to increase from 6.2 million in 1996 to 6.6 million by the year 2008, representing a growth rate of 0.4 percent per year.

Enrollment, by Control of Institution

Enrollment in public institutions grew from 9.7 million in 1983 to an estimated 11.2 million in 1996, increasing at an average annual rate of 1.1 percent, for an increase of 16 percent over the period (figure 16). Under the middle alternative, public enrollment is expected to increase to

12.5 million by 2008, rising by an average annual growth rate of 0.9 percent, for an increase of 12 percent over the projection period. During the projection period, enrollment in public institutions is projected to increase at an average annual growth rate of 0.8 percent during the 1996–2002 period and 1.1 percent during the 2002–2008 period (figure 17).

Under the low alternative, public enrollment is expected to increase from 11.2 million in 1996 to 12.4 million by the year 2008, representing a growth rate of 0.8 percent per year. Under the high alternative, public enrollment is expected to increase from 11.2 million in 1996 to 12.7 million by the year 2008, representing a growth rate of 1.0 percent per year.

Enrollment in private institutions, which include nonprofit and proprietary, increased from 2.8 million in 1983 to an estimated 3.1 million in 1996, increasing at an average annual growth rate of 0.9 percent, for an increase of 13 percent over the period. Under the middle alternative, private enrollment is expected to increase to 3.5 million by 2008, rising by an average annual growth rate of 1.0 percent, for an increase of 13 percent over the projection period. During the projection period, enrollment in private institutions is projected to increase at an annual growth rate of 0.8 percent during the 1996–2002 period and 1.2 percent during the 2002–2008 period.

Under the low alternative, private enrollment is expected to increase from 3.1 million in 1996 to 3.5 million by the year 2008, representing a growth rate of 0.9 percent per year. Under the high alternative, private enrollment is expected to increase from 3.1 million in 1996 to 3.6 million by the year 2008, representing a growth rate of 1.1 percent per year.

Enrollment, by Type of Institution

Enrollment in 4-year institutions increased from 7.7 million in 1983 to an estimated 8.8 million in 1996, increasing at an average annual growth rate of 1.0 percent, for a 13 percent increase over the period (table 4 and figure 18). Under the middle alternative, enrollment in 4-year institutions is expected to rise to 10.0 million by the year 2008, increasing at an average annual growth rate of 1.1 percent, for a 14-percent increase over the projection period. During the projection period, enrollment in 4-year institutions is projected to increase at an annual growth rate of 0.9 percent during the 1996–2002 period and 1.2 percent during the 2002–2008 period (figure 19).

Under the low alternative, enrollment in 4-year institutions is expected to increase from 8.8 million in 1996 to 9.8 million by the year 2008, representing a growth rate of 0.9 percent per year. Under the high alternative, enrollment in 4-year institutions is expected to increase from 8.8 million in 1996 to 10.1 million by the year 2008, representing a growth rate of 1.2 percent per year.

Enrollment in 2-year institutions rose from 4.7 million in 1983 to an estimated 5.6 million in 1996, increasing at an average annual growth rate of 1.3 percent per year, for a 18-percent increase over the period (table 5). Under the middle alternative, enrollment in 2-year institutions is expected to rise to 6.1 million by the year 2008, increasing at an average annual growth rate of 0.8 percent, for a 10-percent increase over the projection period. During the projection period, enrollment in 2-year institutions is projected to increase at an annual growth rate of 0.7 percent during the 1996–2002 period and 0.9 percent during the 2002–2008 period.

Under the low alternative, enrollment in 2-year institutions is expected to increase from 5.6 million in 1996 to 6.0 million by the year 2008, representing a growth rate of 0.7 percent per year. Under the high alternative, enrollment in 2-year institutions is expected to increase from 5.6 million in 1996 to 6.2 million by the year 2008, representing a growth rate of 0.9 percent per year.

Enrollment, by Age

The alternative projections of higher education enrollment by age, sex, and attendance status are shown in table 6 (middle alternative), table 7 (low alternative), and table 8 (high alternative). Projections of college attendance rates appear on appendix table A1.3. These projections are based on age-specific enrollment data from the Bureau of the Census and enrollment data from NCES.

Under the middle alternative, the period from 1988 to 2008 will be one of change in the age distribution of college students. The enrollment of students who are 18- to 24-years old increased from 7.68 million in 1988 to an estimated 7.91 million in 1996, an increase of 3.0 percent (table 6 and figure 26). This number is expected to increase to 9.6 million by the year 2008, an increase of 21 percent from 1996. As a result, the proportion of students who are 18- to 24-years old, which fell from 59 percent in 1988 to 55 percent in 1996, is projected to be 60 percent by the year 2008.

On the other hand, the enrollment of students who are 25 years old and over increased from 5.2 million in 1988 to an estimated 6.24 million in 1996, an increase of 20 percent. This number is projected to decrease slightly to 6.23 million by the year 2008, a decrease of 0.2 percent. Over the projection period, the proportion of students 25 years old and over rose from 40 percent in 1988 to 44 percent in 1996. This proportion is projected to be 39 percent by the year 2008.

Enrollment, by Level

Undergraduate enrollment increased from 10.8 million in 1983 to an estimated 12.3 million in 1996, increasing at an average annual growth rate of 1.0 percent, for a 14 percent increase over the period (table 14 and figure 20). Under the middle alternative, undergraduate enrollment is expected to increase to 14.0 million by the year 2008, at a growth rate of 1.1 percent per year, for a 14-percent increase over the projection period. During the projection period, undergraduate enrollment is projected to increase at an annual growth rate of 1.0 percent during the 1996–2002 period and 1.2 percent during the 2002–2008 period (figure 21).

Under the low alternative, undergraduate enrollment is expected to increase from 12.3 million in 1996 to 13.8 million by the year 2008, representing a growth rate of 1.0 percent per year. Under the high alternative, undergraduate enrollment is expected to increase from 12.3 million in 1996 to 14.2 million by the year 2008, representing a growth rate of 1.2 percent per year.

Graduate enrollment rose from 1.3 million in 1983 to an estimated 1.7 million in 1996, at an average annual growth rate of 1.9 percent, for a 28-percent increase over the period (table 17 and figure 22). Under the middle alternative, graduate enrollment is expected to increase to 1.75 million by the year 2008, increasing at an average annual growth rate of 0.2 percent, for a 2-percent increase over the projection period. During the projection period, graduate enrollment is projected to decrease at a rate of 0.2 percent during the 1996–2002 period and increase at a rate of 0.5 percent during the 2002–2008 period (figure 23).

Under the low alternative, graduate enrollment is expected to increase from 1.72 million in 1996 to 1.73 million by the year 2008, representing a growth rate of less than 0.05 percent per year. Under the high alternative, graduate enrollment is expected to increase from 1.72 million in 1996 to 1.77 million by the year 2008, representing a growth rate of 0.2 percent per year.

First-professional enrollment increased from 279,000 in 1983 to an estimated 285,000 in 1996, an average annual growth rate of 0.2 percent, for a 2-percent increase over the period (table 20 and figure 22). Under the middle alternative, first-professional enrollment is expected to increase to 286,000 by 2008. This represents an annual growth rate of less than 0.05 percent over the projection period, a 0.4-percent increase from 1996. During the projection period, first-professional enrollment is projected to decrease at a rate of 1.0 percent during the 1996–2002 period and increase at a growth rate of 1.1 percent during the 2002–2008 period (figure 23).

Under the low alternative, first-professional enrollment is expected to decrease from 285,000 in 1996 to 282,000 by the year 2008, representing a rate of decline of 0.1 percent per year. Under the high alternative, first-professional enrollment is expected to increase from 285,000 in 1996 to 289,000 by the year 2008, representing a growth rate of 0.1 percent per year.

Full-Time-Equivalent Enrollment

Full-time-equivalent enrollment increased from 9.2 million in 1983 to an estimated 10.3 million in 1996, increasing at an average annual rate of growth of 0.9 percent, for a 13-percent increase over the period (table 23 and figure 24). Under the middle alternative, full-time-equivalent enrollment is expected to increase to 11.9 million by the year 2008, increasing at an average annual growth rate of 1.2 percent, for a 15-percent increase over the projection period. During the projection period, full-time-equivalent enrollment is projected to increase at an annual growth rate of 1.0 percent during the 1996–2002 period and 1.4 percent during the 2002–2008 period (figure 25).

In public institutions, full-time-equivalent enrollment, which was an estimated 7.8 million in 1996, will be 9.0 million by the year 2008 (table 24). In private institutions, full-time-equivalent enrollment, which was an estimated 2.6 million in 1996, will be 2.9 million by the year 2008 (table 25).

Under the low alternative, full-time-equivalent enrollment is expected to increase from 10.3 million in 1996 to 11.7 million by the year 2008, representing a growth rate of 1.1 percent per year. Under the high alternative, full-time-equivalent enrollment is expected to increase from 10.3 million in 1996 to 12.0 million by the year 2008, representing a growth rate of 1.3 percent per year.

Figure 8
College-age populations (18-24 years and 25-29 years), with projections: 1983 to 2008

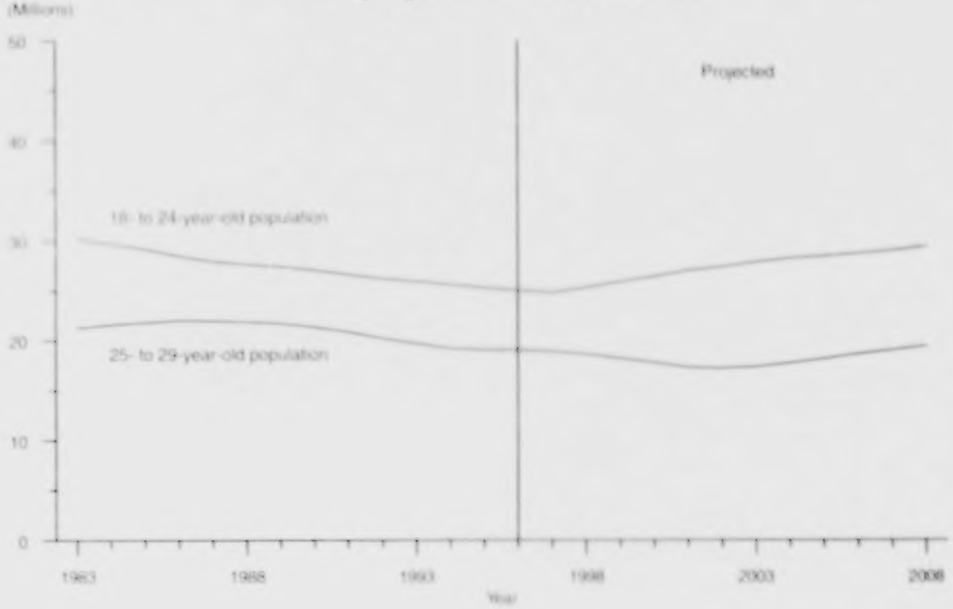


Figure 9
College-age populations (30-34 years and 35-44 years), with projections: 1983 to 2008

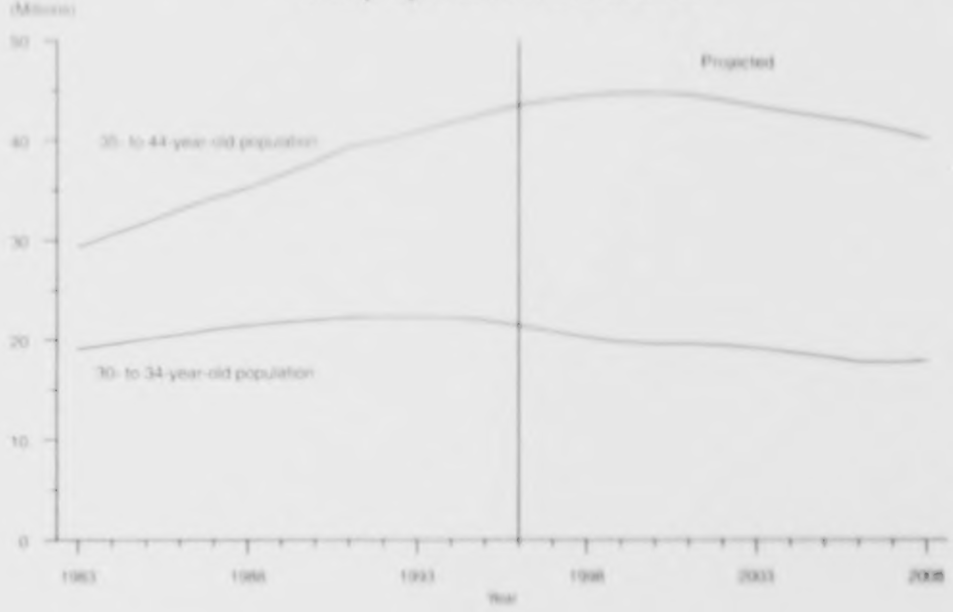


Figure 10
Enrollment in institutions of higher education, with alternative projections: Fall 1983 to fall 2008

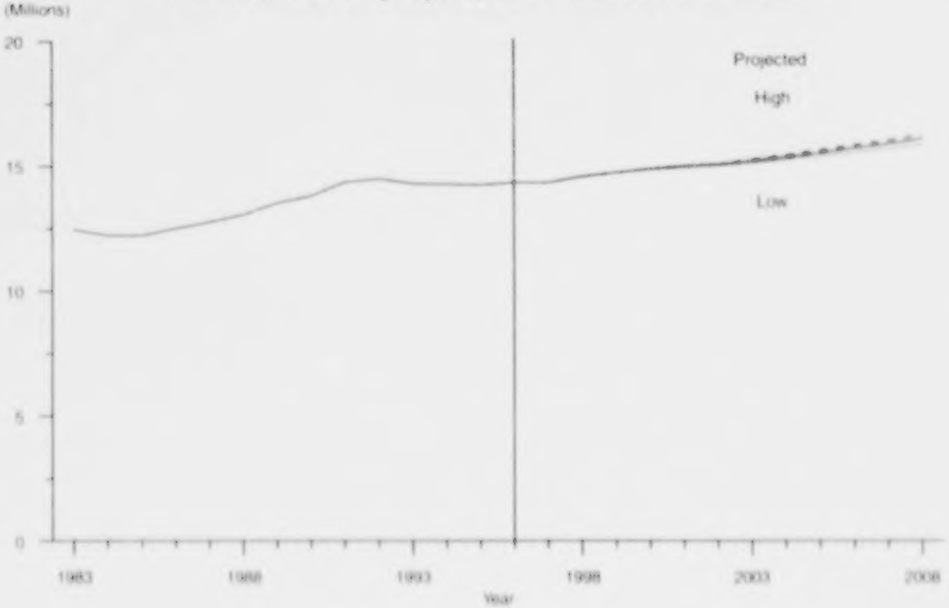


Figure 11
Average annual growth rates for total higher education enrollment

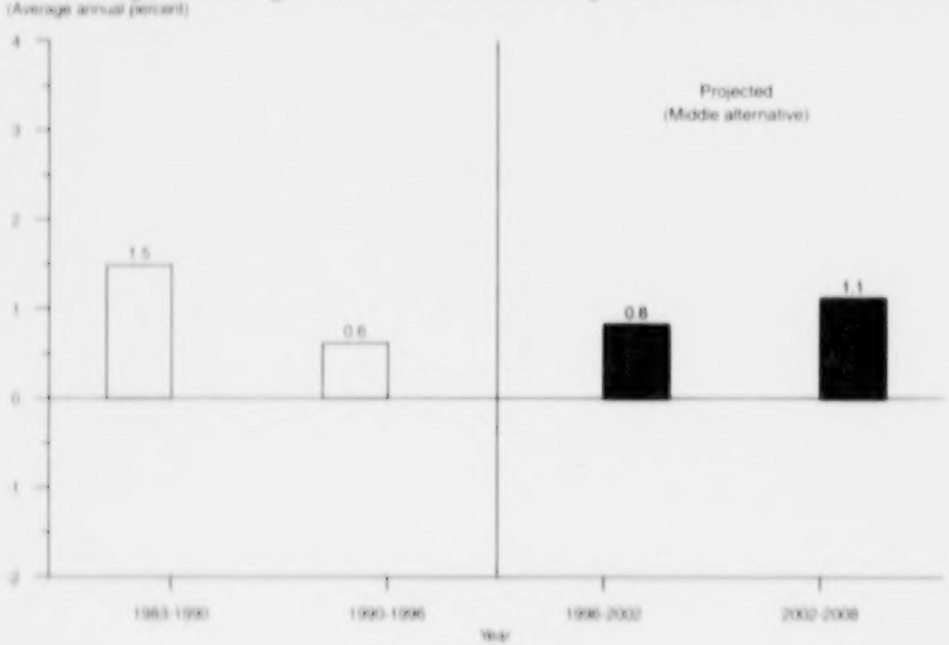


Figure 12
Enrollment in institutions of higher education, by sex, with middle alternative projections: Fall 1983 to fall 2008

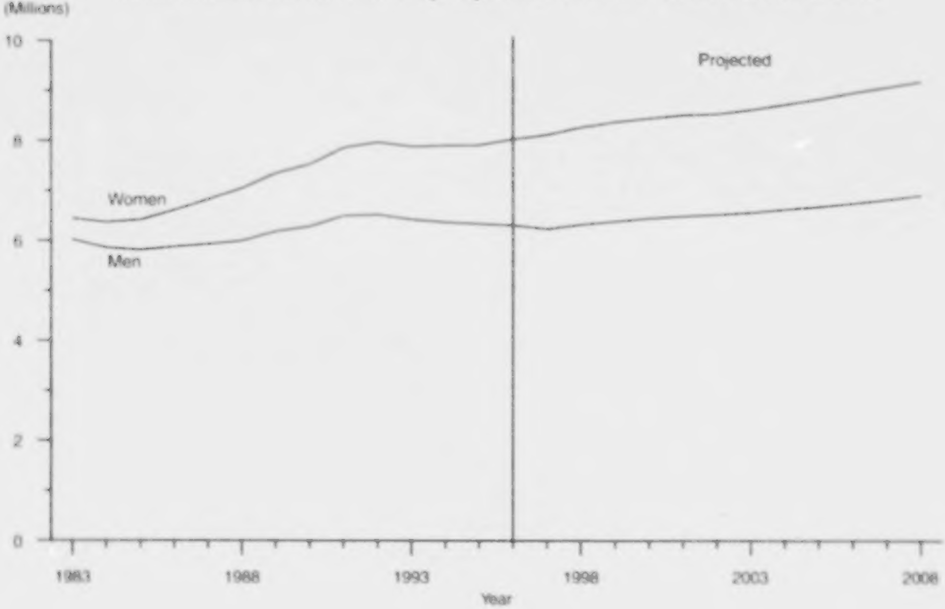


Figure 13
Average annual growth rates for total higher education enrollment, by sex

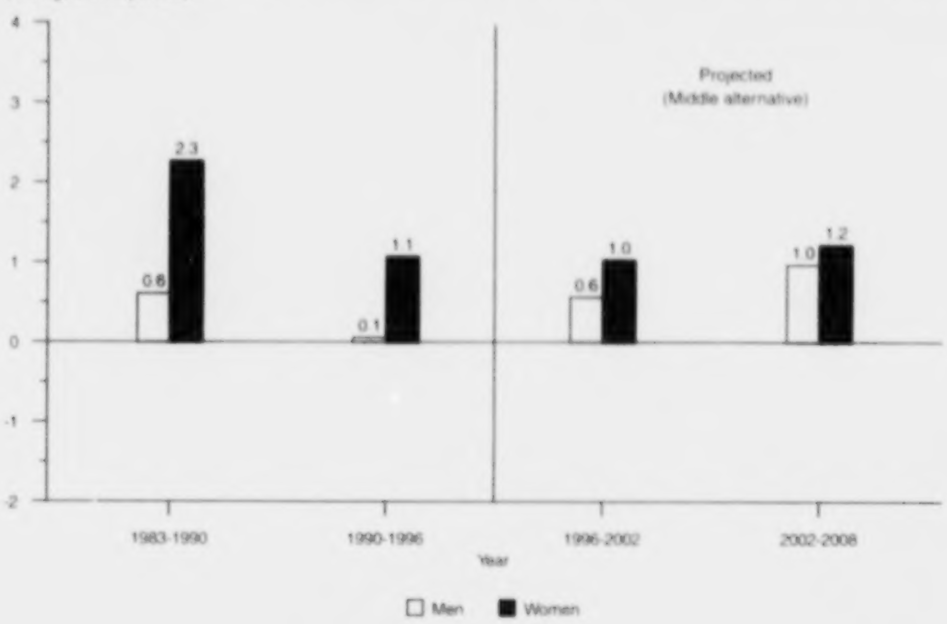


Figure 14
Enrollment in institutions of higher education, by attendance status, with middle alternative projections: Fall 1983 to fall 2008

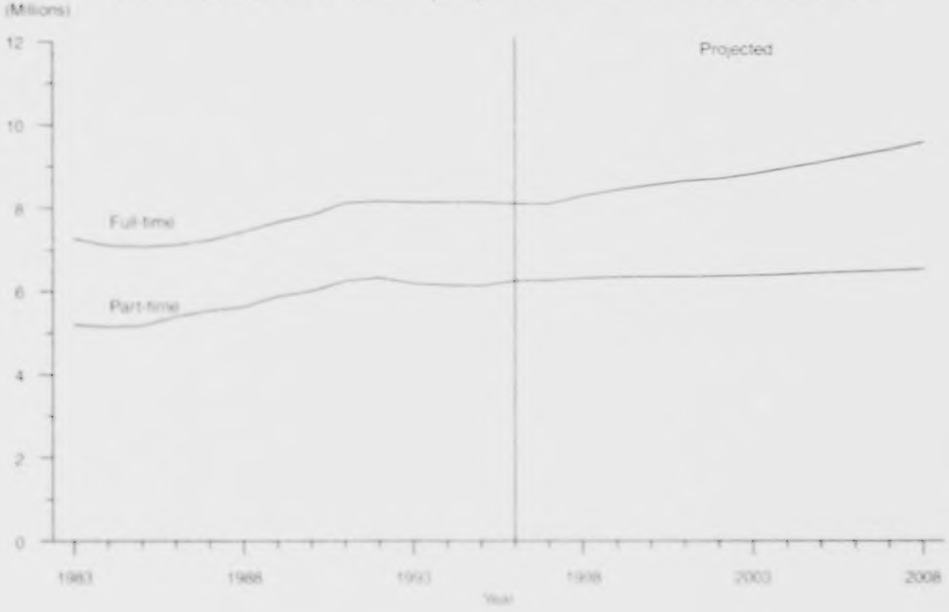


Figure 15
Average annual growth rates for total higher education enrollment, by attendance status

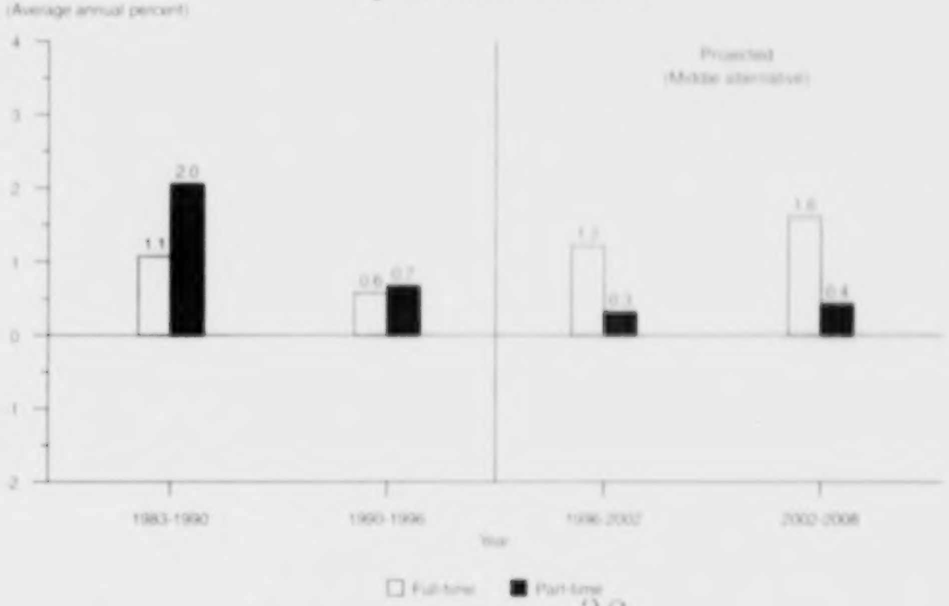


Figure 16

Enrollment in institutions of higher education, by control of institution, with alternative projections: Fall 1983 to fall 2008

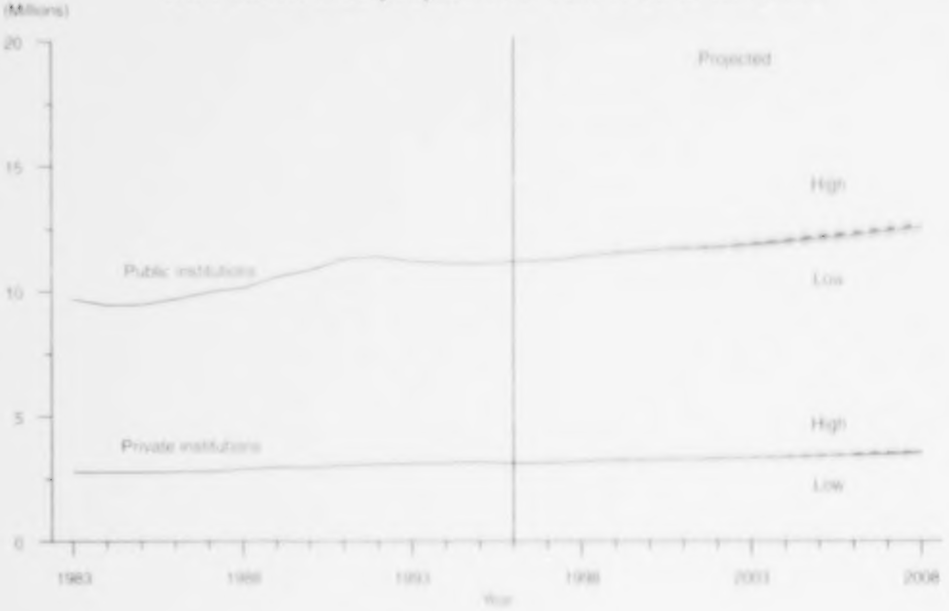


Figure 17

Average annual growth rates for total higher education enrollment, by control of institution

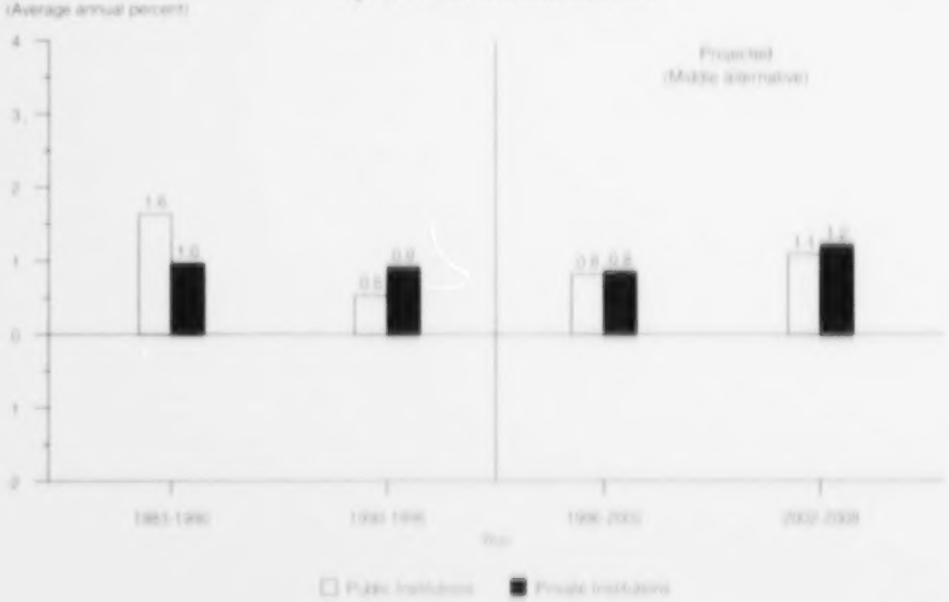


Figure 18
Enrollment in institutions of higher education, by type of institution, with alternative projections: Fall 1983 to fall 2008

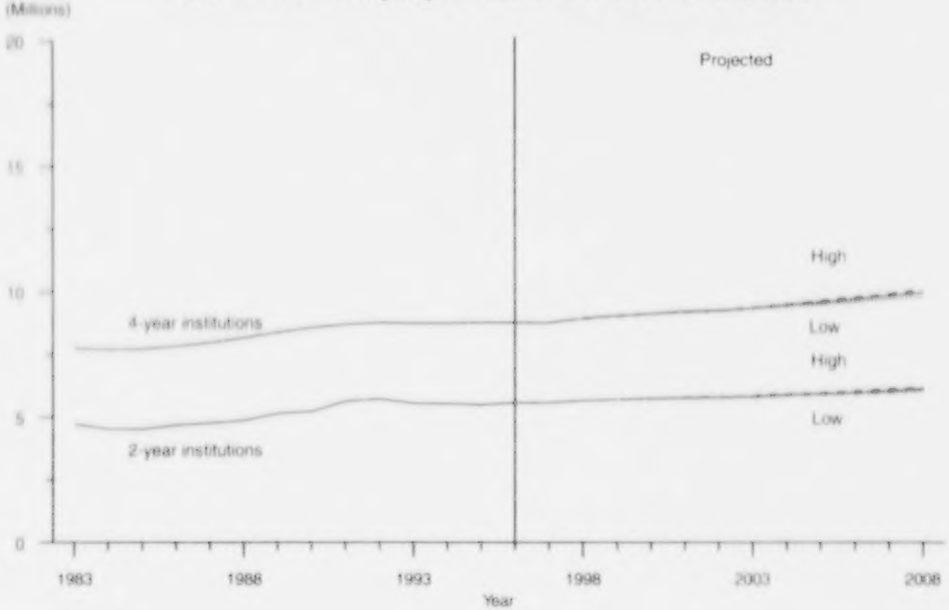


Figure 19
Average annual growth rates for total higher education enrollment, by type of institution

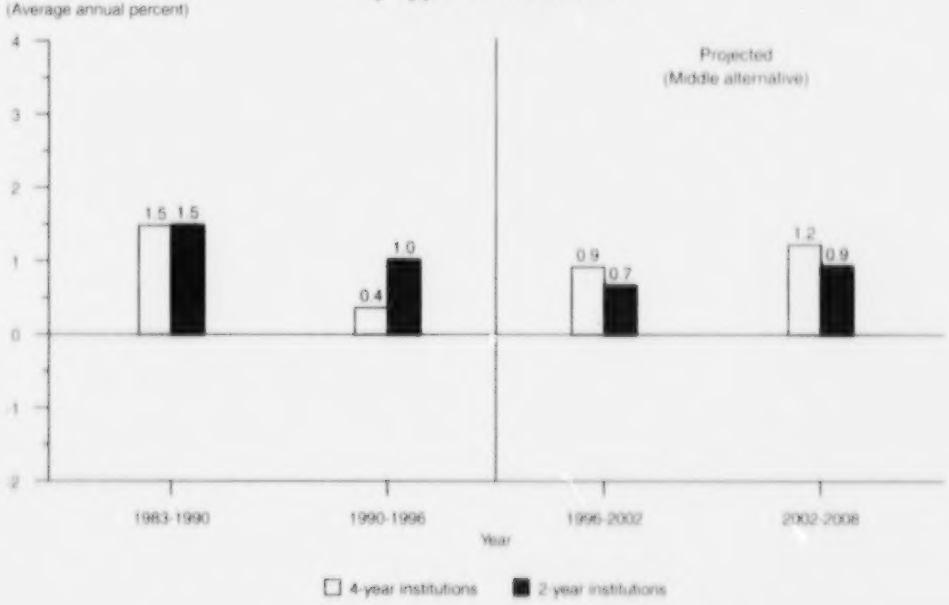


Figure 20
Undergraduate enrollment in institutions of higher education, with alternative projections: Fall 1983 to fall 2008

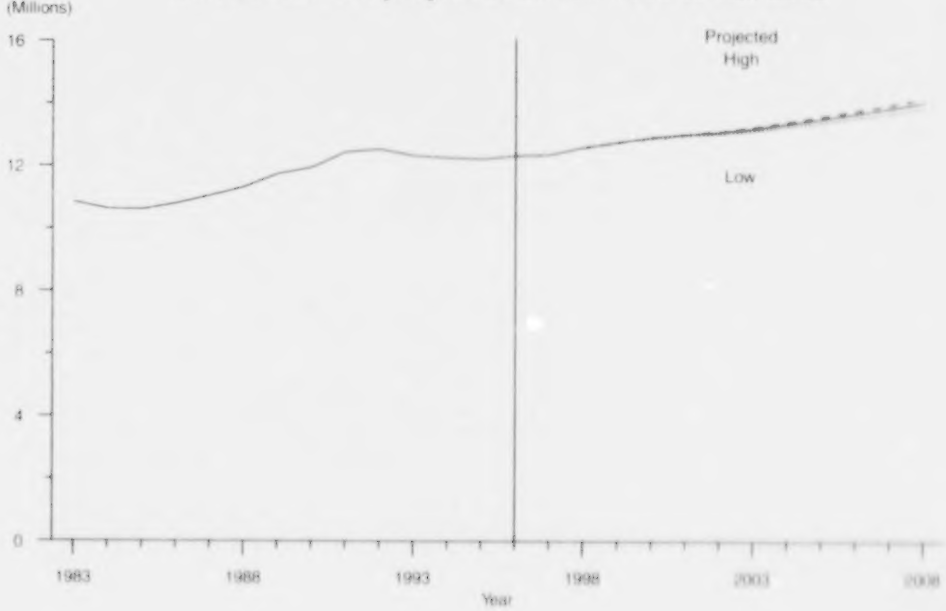


Figure 21
Average annual growth rates for undergraduate enrollment

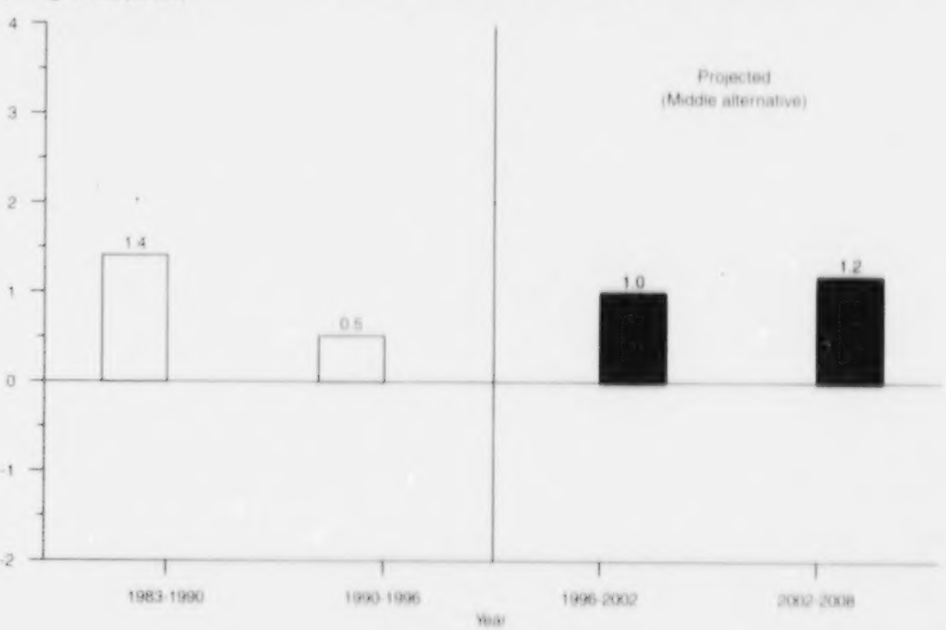


Figure 22
Postbaccalaureate enrollment in institutions of higher education, with alternative projections: Fall 1983 to fall 2008

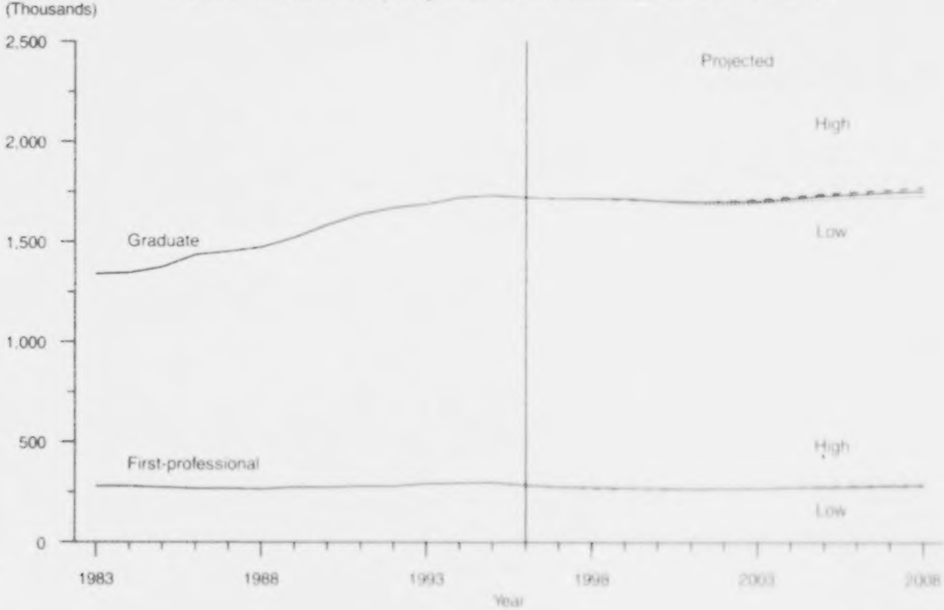


Figure 23
Average annual rates of change for postbaccalaureate enrollment

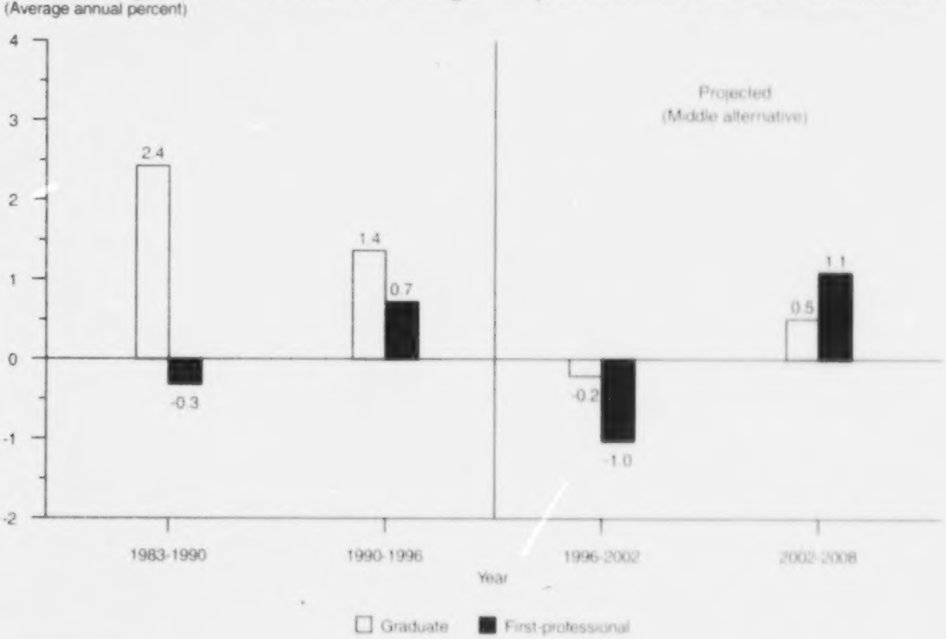


Figure 24
Full-time-equivalent enrollment in institutions of higher education, with alternative projections: Fall 1983 to fall 2008

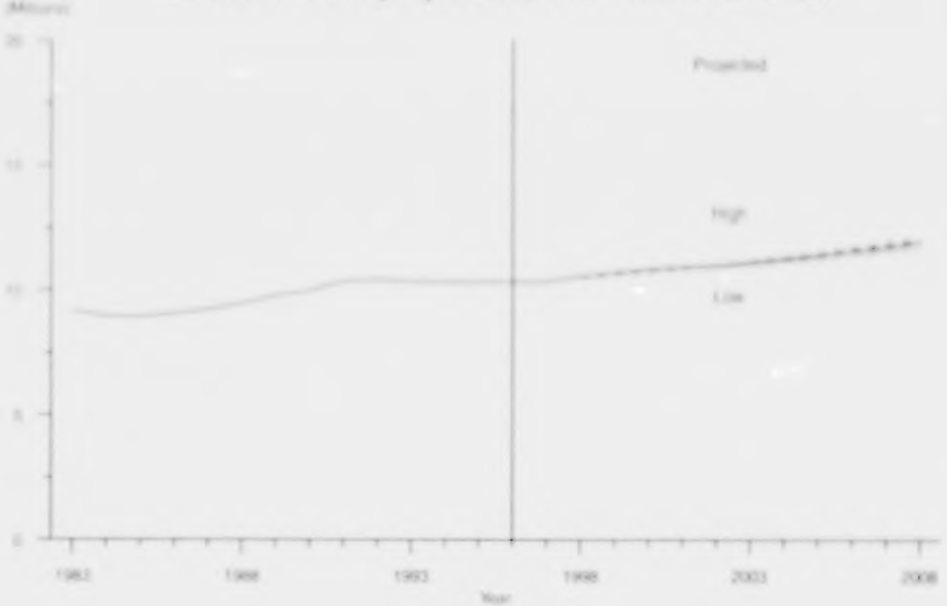


Figure 25
Average annual growth rates for full-time-equivalent enrollment

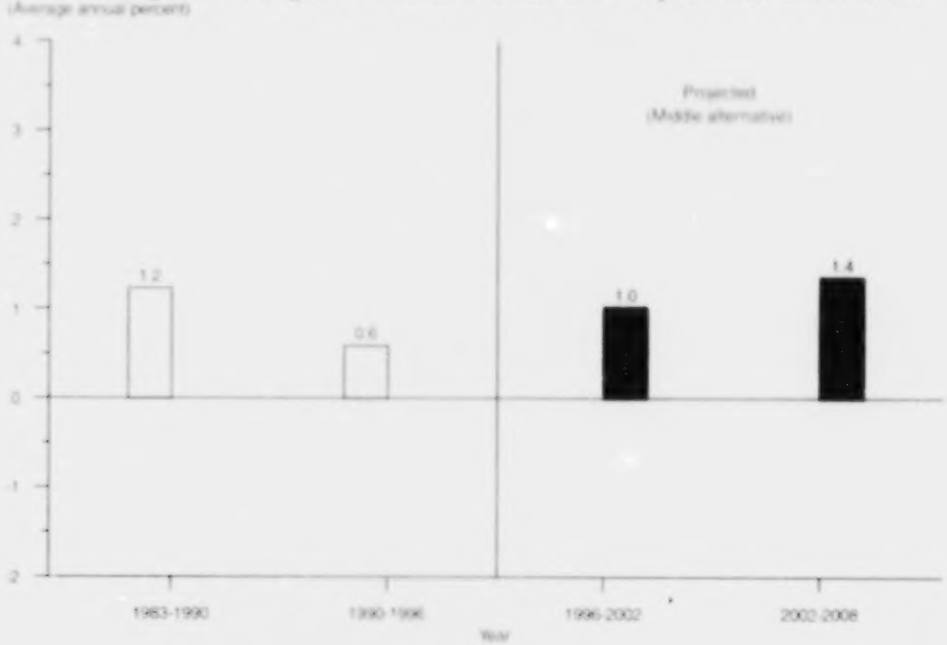


Figure 26
Enrollment in institutions of higher education, by age group, with middle alternative projections: Fall 1988, 1996, and 2008

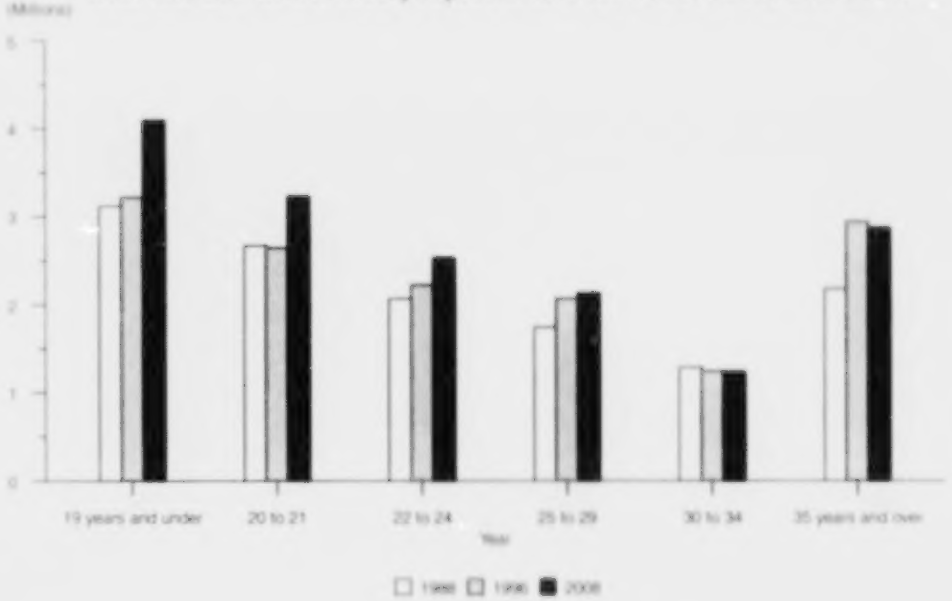


Figure 27
Enrollment of men in institutions of higher education, by age group, with middle alternative projections: Fall 1988, 1996, and 2008

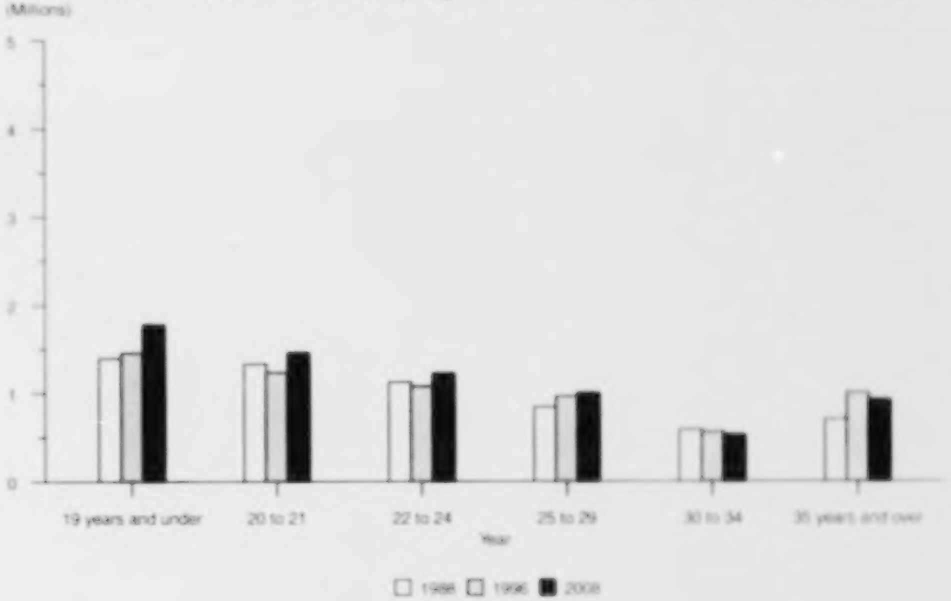


Figure 28
Enrollment of women in institutions of higher education, by age group, with middle alternative projections: Fall 1988, 1996, and 2008

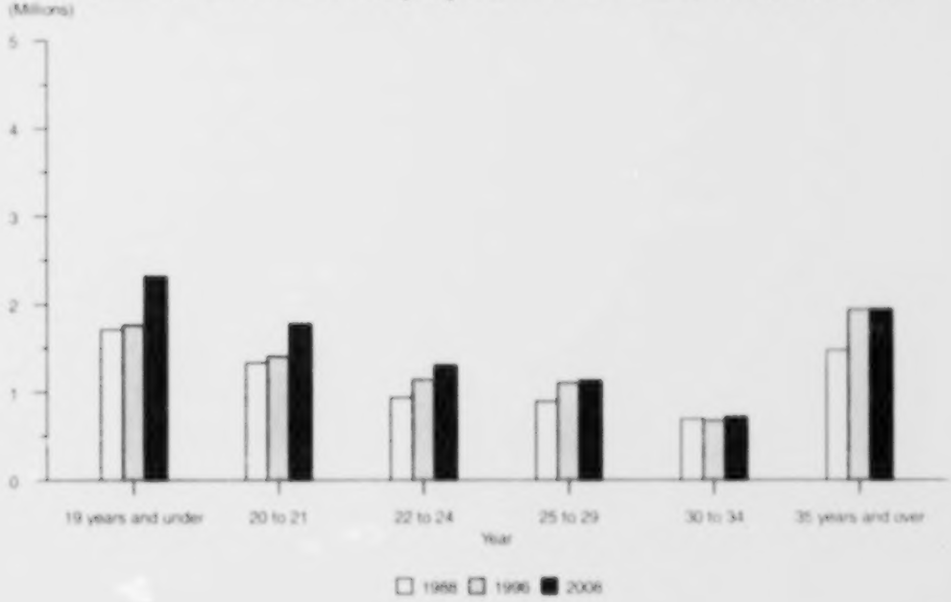


Table 3.—Total enrollment in all institutions of higher education, by sex, attendance status, and control of institution, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
1983	12,465	6,024	6,441	7,261	5,204	9,683	2,782
1984	12,242	5,864	6,378	7,098	5,144	9,477	2,765
1985	12,247	5,818	6,429	7,075	5,172	9,479	2,768
1986	12,504	5,885	6,619	7,120	5,384	9,714	2,790
1987	12,767	5,932	6,835	7,231	5,536	9,973	2,793
1988	13,055	6,002	7,053	7,437	5,619	10,161	2,894
1989	13,539	6,190	7,349	7,661	5,878	10,578	2,961
1990	13,819	6,284	7,535	7,821	5,998	10,845	2,974
1991	14,359	6,502	7,857	8,115	6,244	11,310	3,049
1992	14,487	6,524	7,963	8,162	6,325	11,385	3,103
1993	14,305	6,427	7,877	8,128	6,177	11,189	3,116
1994	14,279	6,372	7,907	8,138	6,141	11,134	3,145
1995	14,262	6,343	7,919	8,129	6,133	11,092	3,169
1996*	14,334	6,304	8,030	8,092	6,242	11,193	3,140
Middle alternative projections							
1997	14,350	6,239	8,111	8,091	6,259	11,208	3,143
1998	14,590	6,324	8,266	8,280	6,310	11,395	3,194
1999	14,758	6,383	8,375	8,426	6,332	11,525	3,233
2000	14,889	6,442	8,447	8,543	6,346	11,626	3,263
2001	14,992	6,487	8,505	8,643	6,349	11,705	3,287
2002	15,053	6,518	8,536	8,696	6,358	11,751	3,303
2003	15,185	6,568	8,616	8,813	6,372	11,849	3,335
2004	15,349	6,628	8,721	8,946	6,403	11,975	3,374
2005	15,516	6,684	8,833	9,085	6,432	12,101	3,415
2006	15,703	6,749	8,954	9,243	6,460	12,242	3,461
2007	15,880	6,819	9,062	9,391	6,489	12,378	3,502
2008	16,083	6,906	9,177	9,562	6,520	12,534	3,549
Low alternative projections							
1997	14,350	6,239	8,111	8,091	6,259	11,208	3,143
1998	14,588	6,323	8,265	8,280	6,309	11,394	3,194
1999	14,748	6,382	8,366	8,423	6,325	11,517	3,231
2000	14,856	6,436	8,419	8,528	6,328	11,599	3,256
2001	14,939	6,478	8,461	8,621	6,318	11,663	3,277
2002	14,991	6,508	8,483	8,672	6,319	11,701	3,290
2003	15,109	6,556	8,554	8,782	6,327	11,789	3,320
2004	15,251	6,610	8,641	8,898	6,353	11,897	3,353
2005	15,388	6,659	8,730	9,014	6,374	12,001	3,387
2006	15,542	6,716	8,826	9,147	6,395	12,117	3,424
2007	15,689	6,779	8,910	9,272	6,416	12,230	3,459
2008	15,856	6,858	8,998	9,416	6,440	12,360	3,497
High alternative projections							
1997	14,350	6,239	8,111	8,091	6,259	11,208	3,143
1998	14,572	6,318	8,254	8,260	6,312	11,383	3,189
1999	14,728	6,373	8,355	8,390	6,339	11,504	3,224
2000	14,867	6,432	8,434	8,504	6,362	11,612	3,255
2001	14,993	6,483	8,511	8,620	6,374	11,709	3,285
2002	15,078	6,518	8,560	8,690	6,388	11,772	3,306
2003	15,227	6,573	8,654	8,820	6,407	11,884	3,343
2004	15,409	6,637	8,772	8,967	6,442	12,023	3,386
2005	15,595	6,697	8,898	9,122	6,473	12,163	3,432
2006	15,806	6,769	9,037	9,302	6,504	12,322	3,483
2007	16,008	6,844	9,164	9,471	6,537	12,477	3,531
2008	16,240	6,939	9,300	9,668	6,572	12,654	3,585

* Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 4.—Total enrollment in 4-year institutions of higher education, by sex, attendance status, and control of institution, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
1983	7,741	3,893	3,849	5,434	2,307	5,223	2,518
1984	7,711	3,847	3,864	5,395	2,317	5,198	2,513
1985	7,716	3,816	3,900	5,385	2,331	5,210	2,506
1986	7,824	3,824	4,000	5,423	2,401	5,300	2,524
1987	7,990	3,859	4,131	5,522	2,468	5,432	2,558
1988	8,180	3,912	4,268	5,693	2,487	5,546	2,634
1989	8,388	3,973	4,414	5,805	2,582	5,694	2,693
1990	8,579	4,051	4,527	5,937	2,642	5,848	2,730
1991	8,707	4,100	4,607	6,041	2,666	5,905	2,802
1992	8,765	4,111	4,654	6,082	2,683	5,900	2,865
1993	8,739	4,082	4,657	6,084	2,655	5,852	2,887
1994	8,749	4,049	4,700	6,106	2,643	5,825	2,924
1995	8,769	4,014	4,755	6,152	2,617	5,815	2,955
1996*	8,766	3,965	4,801	6,068	2,698	5,854	2,912
			Middle alternative projections				
1997	8,777	3,919	4,858	6,057	2,720	5,863	2,914
1998	8,930	3,964	4,966	6,190	2,741	5,969	2,961
1999	9,046	4,004	5,042	6,296	2,750	6,049	2,996
2000	9,138	4,043	5,095	6,386	2,752	6,114	3,024
2001	9,213	4,075	5,138	6,463	2,749	6,166	3,046
2002	9,259	4,096	5,163	6,509	2,750	6,198	3,061
2003	9,354	4,132	5,222	6,600	2,753	6,262	3,092
2004	9,462	4,168	5,294	6,698	2,764	6,335	3,127
2005	9,578	4,205	5,373	6,804	2,774	6,413	3,165
2006	9,708	4,249	5,459	6,924	2,783	6,500	3,207
2007	9,826	4,293	5,533	7,034	2,792	6,580	3,246
2008	9,958	4,347	5,611	7,159	2,800	6,670	3,288
			Low alternative projections				
1997	8,777	3,919	4,858	6,057	2,720	5,863	2,914
1998	8,929	3,965	4,965	6,189	2,740	5,969	2,961
1999	9,041	4,004	5,037	6,294	2,747	6,046	2,995
2000	9,119	4,041	5,078	6,376	2,743	6,101	3,018
2001	9,183	4,072	5,111	6,447	2,736	6,146	3,036
2002	9,225	4,094	5,131	6,492	2,733	6,175	3,050
2003	9,311	4,128	5,183	6,578	2,734	6,234	3,078
2004	9,404	4,161	5,243	6,663	2,742	6,296	3,108
2005	9,501	4,194	5,306	6,752	2,749	6,361	3,140
2006	9,607	4,233	5,375	6,853	2,754	6,433	3,174
2007	9,705	4,273	5,432	6,945	2,759	6,499	3,205
2008	9,814	4,322	5,491	7,050	2,764	6,574	3,240
			High alternative projections				
1997	8,777	3,919	4,858	6,057	2,720	5,863	2,914
1998	8,916	3,960	4,956	6,175	2,741	5,960	2,956
1999	9,021	3,995	5,026	6,269	2,753	6,033	2,988
2000	9,116	4,033	5,083	6,358	2,758	6,099	3,016
2001	9,206	4,068	5,138	6,446	2,760	6,162	3,044
2002	9,268	4,092	5,175	6,504	2,763	6,204	3,064
2003	9,374	4,130	5,244	6,605	2,769	6,276	3,098
2004	9,495	4,169	5,325	6,713	2,781	6,357	3,138
2005	9,624	4,210	5,414	6,831	2,793	6,444	3,181
2006	9,771	4,257	5,513	6,968	2,803	6,542	3,228
2007	9,907	4,306	5,601	7,093	2,813	6,634	3,273
2008	10,060	4,366	5,694	7,237	2,823	6,738	3,322

* Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 5.—Total enrollment in 2-year institutions of higher education, by sex, attendance status, and control of institution, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
1983	4,723	2,131	2,592	1,827	2,896	4,459	264
1984	4,531	2,017	2,514	1,704	2,827	4,279	252
1985	4,531	2,002	2,529	1,691	2,840	4,270	261
1986	4,680	2,061	2,619	1,696	2,983	4,414	266
1987	4,776	2,073	2,703	1,709	3,068	4,541	235
1988	4,875	2,090	2,785	1,744	3,132	4,615	260
1989	5,151	2,217	2,934	1,856	3,295	4,884	267
1990	5,240	2,233	3,007	1,884	3,356	4,996	244
1991	5,652	2,402	3,250	2,075	3,577	5,405	247
1992	5,722	2,413	3,309	2,080	3,642	5,485	238
1993	5,566	2,345	3,220	2,043	3,523	5,337	229
1994	5,530	2,323	3,207	2,032	3,498	5,308	221
1995	5,493	2,329	3,164	1,977	3,515	5,278	215
1996[1]	5,568	2,339	3,229	2,024	3,543	5,340	228
Middle alternative projections							
1997[1]	5,573	2,320	3,253	2,034	3,539	5,344	229
1998	5,660	2,359	3,301	2,090	3,569	5,426	234
1999	5,712	2,379	3,333	2,130	3,582	5,475	237
2000	5,751	2,400	3,351	2,156	3,595	5,512	239
2001	5,779	2,413	3,367	2,180	3,600	5,539	241
2002	5,794	2,422	3,372	2,187	3,607	5,553	242
2003	5,831	2,437	3,394	2,213	3,618	5,587	244
2004	5,887	2,460	3,427	2,248	3,639	5,640	247
2005	5,938	2,478	3,459	2,281	3,657	5,688	250
2006	5,995	2,500	3,495	2,319	3,676	5,742	253
2007	6,054	2,526	3,529	2,357	3,697	5,798	256
2008	6,124	2,559	3,566	2,403	3,721	5,864	260
Low alternative projections							
1997[1]	5,573	2,320	3,253	2,034	3,539	5,344	229
1998	5,659	2,359	3,300	2,090	3,569	5,425	234
1999	5,707	2,378	3,329	2,129	3,578	5,471	237
2000	5,737	2,396	3,341	2,153	3,584	5,498	239
2001	5,756	2,406	3,350	2,174	3,583	5,516	240
2002	5,766	2,414	3,352	2,180	3,586	5,525	241
2003	5,798	2,428	3,370	2,205	3,594	5,555	243
2004	5,847	2,449	3,398	2,236	3,611	5,601	245
2005	5,888	2,465	3,423	2,262	3,625	5,640	248
2006	5,934	2,484	3,451	2,294	3,641	5,684	250
2007	5,984	2,506	3,477	2,327	3,657	5,730	253
2008	6,043	2,536	3,506	2,366	3,677	5,786	257
High alternative projections							
1997[1]	5,573	2,320	3,253	2,034	3,539	5,344	229
1998	5,656	2,358	3,298	2,085	3,571	5,423	233
1999	5,707	2,378	3,329	2,121	3,586	5,471	236
2000	5,751	2,400	3,351	2,147	3,604	5,512	239
2001	5,788	2,415	3,373	2,174	3,614	5,547	241
2002	5,810	2,426	3,384	2,185	3,625	5,568	242
2003	5,853	2,443	3,410	2,215	3,639	5,609	244
2004	5,915	2,468	3,447	2,254	3,661	5,667	248
2005	5,971	2,487	3,484	2,291	3,680	5,720	251
2006	6,035	2,511	3,524	2,334	3,701	5,780	255
2007	6,101	2,539	3,563	2,378	3,723	5,843	259
2008	6,180	2,574	3,606	2,431	3,749	5,917	263

[1] Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 6.—Enrollment in all institutions of higher education, by age, sex, and attendance status, with middle alternative projections: 50 States and D.C., fall 1988, 1993, 1996, 2003, and 2008

(In thousands)

Age	1988 (Estimated)			1993 (Estimated)			1996 (Projected)			2003 (Projected)			2008 (Projected)		
	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time
Total	**13,055**	**7,437**	**5,619**	**14,305**	**8,128**	**6,177**	**14,334**	**8,092**	**6,242**	**15,185**	**8,813**	**6,372**	**16,083**	**9,562**	**6,520**
14 to 17 years	179	150	29	127	92	35	184	144	40	217	186	32	252	216	36
18 to 19 years	2,940	2,528	412	2,840	2,370	470	3,036	2,582	454	3,452	2,993	459	3,842	3,341	501
20 to 21 years	2,667	2,108	559	2,674	2,148	526	2,647	2,095	552	3,043	2,464	579	3,228	2,625	603
22 to 24 years	2,068	1,243	825	2,570	1,612	958	2,225	1,401	823	2,357	1,479	878	2,535	1,599	935
25 to 29 years	1,740	670	1,070	2,002	839	1,163	2,066	861	1,205	1,853	729	1,124	2,130	845	1,285
30 to 34 years	1,283	350	933	1,345	424	921	1,242	411	832	1,259	385	874	1,236	375	860
35 years and over	2,179	389	1,790	2,747	643	2,104	2,934	598	2,336	3,003	578	2,425	2,861	561	2,300
Men	6,002	3,662	2,340	6,427	3,891	2,537	6,304	3,729	2,575	6,568	3,925	2,644	6,906	4,182	2,724
14 to 17 years	58	51	7	54	37	17	93	69	24	99	82	16	110	91	19
18 to 19 years	1,343	1,171	172	1,288	1,079	210	1,368	1,150	218	1,515	1,298	217	1,667	1,427	239
20 to 21 years	1,332	1,032	300	1,284	1,003	281	1,238	968	270	1,390	1,104	286	1,456	1,155	300
22 to 24 years	1,130	723	408	1,344	896	448	1,080	717	362	1,155	745	410	1,227	790	438
25 to 29 years	844	383	461	903	443	460	962	431	531	880	363	517	1,001	411	590
30 to 34 years	588	158	431	584	180	404	563	176	387	546	158	388	523	149	374
35 years and over	707	145	561	970	253	717	1,001	218	783	983	173	810	922	159	763
Women	7,053	3,775	3,278	7,877	4,237	3,640	8,030	4,363	3,667	8,616	4,888	3,728	9,177	5,380	3,797
14 to 17 years	121	99	22	73	55	18	91	75	16	118	103	15	142	125	17
18 to 19 years	1,596	1,357	240	1,552	1,291	261	1,669	1,432	236	1,937	1,695	242	2,176	1,914	262
20 to 21 years	1,336	1,076	260	1,391	1,145	245	1,409	1,127	282	1,653	1,360	293	1,772	1,469	303
22 to 24 years	937	520	417	1,226	716	510	1,145	684	461	1,202	733	469	1,307	810	497
25 to 29 years	896	287	609	1,098	396	702	1,104	430	674	973	366	608	1,128	434	695
30 to 34 years	695	192	503	761	244	517	679	235	444	713	226	486	712	226	487
35 years and over	1,472	244	1,229	1,777	390	1,386	1,934	380	1,554	2,020	405	1,615	1,939	402	1,537

NOTE: Historical numbers may differ from those in previous editions. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys; and U.S. Department of Commerce, Bureau of the Census, unpublished tabulations. (This table was prepared October 1997.)

Table 7.—Enrollment in all institutions of higher education, by age, sex, and attendance status, with low alternative projections: 50 States and D.C., fall 1988, 1993, 1996, 2003, and 2008

(In thousands)

Age	1988 (Estimated)			1993 (Estimated)			1996 (Projected)			2003 (Projected)			2008 (Projected)		
	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time
Total	**13,055**	**7,437**	**5,619**	**14,305**	**8,128**	**6,177**	**14,334**	**8,092**	**6,242**	**15,109**	**8,782**	**6,327**	**15,856**	**9,416**	**6,440**
14 to 17 years	179	150	29	127	92	35	184	144	40	216	184	31	246	211	35
18 to 19 years	2,940	2,528	412	2,840	2,370	470	3,036	2,582	454	3,439	2,983	457	3,798	3,299	498
20 to 21 years	2,667	2,108	559	2,674	2,148	526	2,647	2,095	552	3,032	2,456	576	3,187	2,588	599
22 to 24 years	2,068	1,243	825	2,570	1,612	958	2,225	1,401	823	2,346	1,473	872	2,497	1,572	925
25 to 29 years	1,740	670	1,070	2,002	839	1,163	2,066	861	1,205	1,844	727	1,116	2,098	830	1,268
30 to 34 years	1,283	350	933	1,345	424	921	1,242	411	832	1,251	383	868	1,216	368	848
35 years and over	2,179	389	1,790	2,747	643	2,104	2,934	598	2,336	2,982	575	2,407	2,815	548	2,267
Men	6,002	3,662	2,340	6,427	3,891	2,537	6,304	3,729	2,575	6,556	3,930	2,626	6,858	4,169	2,689
14 to 17 years	58	51	7	54	37	17	93	69	24	99	82	16	109	91	19
18 to 19 years	1,343	1,171	172	1,288	1,079	210	1,368	1,150	218	1,514	1,299	215	1,659	1,423	237
20 to 21 years	1,332	1,032	300	1,284	1,003	281	1,238	968	270	1,390	1,106	284	1,449	1,152	297
22 to 24 years	1,130	723	408	1,344	896	448	1,080	717	362	1,153	747	407	1,219	787	432
25 to 29 years	844	383	461	903	443	460	962	431	531	878	364	513	992	410	583
30 to 34 years	588	158	431	584	180	404	563	176	387	544	159	385	518	149	369
35 years and over	707	145	561	970	253	717	1,001	218	783	978	174	805	911	158	753
Women	7,053	3,775	3,278	7,877	4,237	3,640	8,030	4,363	3,667	8,554	4,852	3,702	8,998	5,247	3,751
14 to 17 years	121	99	22	73	55	18	91	75	16	117	102	15	137	121	16
18 to 19 years	1,596	1,357	240	1,552	1,291	261	1,669	1,432	236	1,925	1,684	241	2,138	1,876	262
20 to 21 years	1,336	1,076	260	1,391	1,145	245	1,409	1,127	282	1,642	1,350	292	1,738	1,436	302
22 to 24 years	937	520	417	1,226	716	510	1,145	684	461	1,192	727	466	1,278	786	492
25 to 29 years	896	287	609	1,098	396	702	1,104	430	674	966	363	603	1,105	420	685
30 to 34 years	695	192	503	761	244	517	679	235	444	707	225	483	698	219	479
35 years and over	1,472	244	1,229	1,777	390	1,386	1,934	380	1,554	2,004	402	1,602	1,903	389	1,514

NOTE: Historical numbers may differ from those in previous editions. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys; and U.S. Department of Commerce, Bureau of the Census, unpublished tabulations. (This table was prepared October 1997.)

Table 8.—Enrollment in all institutions of higher education, by age, sex, and attendance status, with high alternative projections: 50 States and D.C., fall 1988, 1993, 1996, 2003, and 2008

(In thousands)

Age	1988 (Estimated)			1993 (Estimated)			1996 (Projected)			2003 (Projected)			2008 (Projected)		
	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time	Total	Full-time	Part-time
Total	**13,055**	**7,437**	**5,619**	**14,305**	**8,128**	**6,177**	**14,334**	**8,092**	**6,242**	**15,227**	**8,820**	**6,407**	**16,240**	**9,668**	**6,572**
14 to 17 years	179	150	29	127	92	35	183	144	40	218	187	31	255	219	36
18 to 19 years	2,940	2,528	412	2,840	2,370	470	3,036	2,582	454	3,458	2,997	461	3,874	3,371	502
20 to 21 years	2,667	2,108	559	2,674	2,148	526	2,647	2,095	552	3,048	2,466	582	3,257	2,651	606
22 to 24 years	2,096	1,241	855	2,570	1,612	958	2,225	1,401	823	2,363	1,480	883	2,561	1,619	942
25 to 29 years	1,740	630	1,110	2,002	839	1,163	2,066	861	1,205	1,859	726	1,133	2,152	855	1,296
30 to 34 years	1,283	380	903	1,345	434	911	1,242	411	832	1,264	384	879	1,249	341	908
35 years and over	2,179	380	1,799	2,747	643	2,104	2,934	598	2,336	3,017	578	2,439	2,893	571	2,322
Men	6,002	3,662	2,340	6,427	3,891	2,536	6,304	3,329	2,975	6,573	3,915	2,658	6,939	4,193	2,746
14 to 17 years	58	51	7	54	37	17	93	69	24	99	82	17	111	91	19
18 to 19 years	1,343	1,171	172	1,288	1,078	210	1,366	1,150	216	1,514	1,296	218	1,672	1,431	241
20 to 21 years	1,332	1,032	300	1,284	1,003	281	1,238	968	270	1,389	1,101	288	1,461	1,158	303
22 to 24 years	1,130	722	408	1,344	896	448	1,080	717	363	1,155	743	412	1,233	792	441
25 to 29 years	844	383	461	903	413	490	962	431	531	881	362	520	1,007	412	595
30 to 34 years	588	158	431	584	180	404	563	176	387	547	157	390	527	150	377
35 years and over	707	145	561	970	253	717	1,001	218	783	987	173	814	929	159	770
Women	7,053	3,775	3,278	7,877	4,237	3,640	8,030	4,763	3,267	8,654	4,905	3,749	9,300	5,474	3,826
14 to 17 years	121	99	22	73	55	18	91	75	16	119	104	15	145	128	17
18 to 19 years	1,596	1,357	240	1,552	1,291	261	1,669	1,432	236	1,943	1,700	243	2,202	1,940	261
20 to 21 years	1,336	1,076	260	1,391	1,145	245	1,409	1,127	282	1,659	1,364	295	1,796	1,493	303
22 to 24 years	937	520	417	1,226	716	510	1,145	684	461	1,208	737	471	1,328	827	501
25 to 29 years	896	287	609	1,098	396	702	1,104	430	674	978	366	611	1,145	444	701
30 to 34 years	695	192	503	761	254	507	679	235	444	716	227	490	723	231	491
35 years and over	1,472	244	1,229	1,777	390	1,386	1,934	380	1,554	2,030	406	1,625	1,964	412	1,552

NOTE: Historical numbers may differ from those in previous editions. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys; and U.S. Department of Commerce, Bureau of the Census, unpublished tabulations. (This table was prepared October 1997.)

Table 9.—Total enrollment in all institutions of higher education, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1983	12,465	3,760	2,264	3,501	2,940
1984	12,242	3,648	2,216	3,451	2,927
1985	12,247	3,608	2,211	3,468	2,961
1986	12,504	3,599	2,285	3,521	3,098
1987	12,767	3,611	2,321	3,620	3,214
1988	13,055	3,662	2,340	3,775	3,278
1989	13,539	3,740	2,450	3,921	3,428
1990	13,819	3,808	2,476	4,013	3,521
1991	14,359	3,929	2,572	4,186	3,671
1992	14,487	3,927	2,597	4,235	3,728
1993	14,305	3,891	2,537	4,237	3,640
1994	14,279	3,855	2,517	4,283	3,624
1995	14,262	3,807	2,535	4,321	3,598
1996[1]	14,334	3,729	2,575	4,363	3,667
			Middle alternative projections		
1997	14,350	3,667	2,572	4,424	3,687
1998	14,590	3,718	2,606	4,562	3,704
1999	14,758	3,768	2,615	4,658	3,717
2000	14,889	3,816	2,626	4,727	3,720
2001	14,992	3,859	2,628	4,784	3,721
2002	15,053	3,882	2,636	4,814	3,722
2003	15,185	3,925	2,644	4,888	3,728
2004	15,349	3,968	2,660	4,978	3,743
2005	15,516	4,010	2,674	5,075	3,758
2006	15,703	4,060	2,688	5,183	3,771
2007	15,880	4,114	2,705	5,277	3,784
2008	16,083	4,182	2,724	5,380	3,797
			Low alternative projections		
1997	14,350	3,667	2,572	4,424	3,687
1998	14,588	3,718	2,605	4,561	3,704
1999	14,748	3,770	2,612	4,654	3,712
2000	14,856	3,818	2,619	4,710	3,709
2001	14,939	3,863	2,616	4,758	3,703
2002	14,991	3,888	2,620	4,784	3,699
2003	15,109	3,930	2,626	4,852	3,702
2004	15,251	3,971	2,639	4,927	3,713
2005	15,388	4,009	2,650	5,005	3,724
2006	15,542	4,055	2,661	5,092	3,734
2007	15,689	4,105	2,674	5,167	3,742
2008	15,856	4,169	2,689	5,247	3,751
			High alternative projections		
1997	14,350	3,667	2,572	4,424	3,687
1998	14,572	3,712	2,606	4,548	3,706
1999	14,728	3,756	2,618	4,634	3,721
2000	14,867	3,800	2,632	4,704	3,730
2001	14,993	3,845	2,638	4,775	3,736
2002	15,078	3,871	2,648	4,819	3,740
2003	15,227	3,915	2,658	4,905	3,749
2004	15,409	3,961	2,676	5,006	3,766
2005	15,595	4,006	2,691	5,116	3,782
2006	15,806	4,062	2,707	5,240	3,797
2007	16,008	4,119	2,725	5,352	3,812
2008	16,240	4,193	2,746	5,474	3,826

[1] Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 10.—Total enrollment in public 4-year institutions of higher education, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1983	5,223	1,910	698	1,755	860
1984	5,198	1,880	694	1,749	874
1985	5,210	1,864	693	1,760	893
1986	5,300	1,865	706	1,792	937
1987	5,432	1,882	723	1,854	973
1988	5,546	1,910	722	1,932	982
1989	5,694	1,938	743	1,997	1,017
1990	5,848	1,982	764	2,051	1,050
1991	5,905	2,006	765	2,083	1,051
1992	5,900	2,005	760	2,090	1,045
1993	5,852	1,989	750	2,085	1,027
1994	5,825	1,966	738	2,100	1,022
1995	5,815	1,951	720	2,134	1,009
1996*	5,854	1,901	751	2,153	1,048
Middle alternative projections					
1997	5,863	1,867	756	2,184	1,057
1998	5,969	1,891	764	2,252	1,062
1999	6,049	1,916	768	2,300	1,065
2000	6,114	1,942	769	2,337	1,065
2001	6,166	1,966	769	2,368	1,064
2002	6,198	1,980	770	2,385	1,064
2003	6,262	2,002	772	2,423	1,065
2004	6,335	2,023	775	2,468	1,068
2005	6,413	2,045	779	2,517	1,072
2006	6,500	2,072	782	2,571	1,075
2007	6,580	2,099	785	2,618	1,078
2008	6,670	2,132	789	2,669	1,079
Low alternative projections					
1997	5,863	1,867	756	2,184	1,057
1998	5,969	1,891	764	2,252	1,062
1999	6,046	1,917	767	2,298	1,064
2000	6,101	1,943	767	2,329	1,062
2001	6,146	1,967	765	2,355	1,059
2002	6,175	1,982	765	2,370	1,057
2003	6,234	2,005	766	2,405	1,057
2004	6,296	2,025	769	2,443	1,060
2005	6,361	2,045	772	2,482	1,062
2006	6,433	2,069	774	2,526	1,064
2007	6,499	2,094	776	2,564	1,065
2008	6,574	2,125	779	2,604	1,065
High alternative projections					
1997	5,863	1,867	756	2,184	1,057
1998	5,960	1,888	765	2,245	1,062
1999	6,033	1,910	768	2,289	1,067
2000	6,099	1,934	771	2,326	1,068
2001	6,162	1,958	772	2,363	1,068
2002	6,204	1,973	773	2,388	1,069
2003	6,276	1,997	776	2,432	1,071
2004	6,357	2,020	780	2,482	1,075
2005	6,444	2,043	784	2,537	1,080
2006	6,542	2,073	787	2,600	1,083
2007	6,634	2,101	791	2,655	1,086
2008	6,738	2,138	796	2,716	1,088

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 11.—Total enrollment in public 2-year institutions of higher education, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1983	4,459	827	1,175	807	1,650
1984	4,279	762	1,138	756	1,623
1985	4,270	743	1,138	754	1,635
1986	4,414	742	1,193	764	1,715
1987	4,541	744	1,225	787	1,785
1988	4,615	746	1,231	822	1,817
1989	4,884	793	1,302	881	1,907
1990	4,996	811	1,318	906	1,962
1991	5,405	882	1,414	1,004	2,105
1992	5,485	878	1,431	1,037	2,138
1993	5,337	859	1,386	1,030	2,063
1994	5,308	848	1,379	1,038	2,044
1995	5,278	819	1,417	1,022	2,020
1996[1]	5,340	826	1,416	1,047	2,052
			Middle alternative projections		
1997	5,344	818	1,405	1,064	2,058
1998	5,426	835	1,425	1,099	2,067
1999	5,475	849	1,430	1,121	2,074
2000	5,512	860	1,439	1,135	2,078
2001	5,539	869	1,442	1,147	2,081
2002	5,553	872	1,448	1,151	2,082
2003	5,587	880	1,454	1,166	2,087
2004	5,640	892	1,465	1,188	2,096
2005	5,688	900	1,474	1,210	2,105
2006	5,742	911	1,484	1,234	2,114
2007	5,798	924	1,495	1,256	2,123
2008	5,864	942	1,508	1,281	2,133
			Low alternative projections		
1997	5,344	818	1,405	1,064	2,058
1998	5,425	835	1,425	1,098	2,067
1999	5,471	850	1,429	1,120	2,072
2000	5,498	860	1,435	1,131	2,072
2001	5,516	870	1,435	1,141	2,071
2002	5,525	873	1,439	1,144	2,069
2003	5,555	881	1,444	1,158	2,072
2004	5,601	892	1,453	1,176	2,080
2005	5,640	900	1,460	1,193	2,087
2006	5,684	910	1,469	1,212	2,093
2007	5,730	922	1,478	1,230	2,100
2008	5,786	939	1,489	1,250	2,108
			High alternative projections		
1997	5,344	818	1,405	1,064	2,058
1998	5,423	834	1,426	1,095	2,068
1999	5,471	847	1,432	1,115	2,077
2000	5,512	856	1,443	1,130	2,084
2001	5,547	867	1,447	1,144	2,089
2002	5,568	870	1,455	1,152	2,092
2003	5,609	878	1,462	1,170	2,098
2004	5,667	890	1,473	1,194	2,109
2005	5,720	899	1,483	1,219	2,118
2006	5,780	911	1,494	1,248	2,127
2007	5,843	925	1,506	1,274	2,137
2008	5,917	944	1,520	1,304	2,148

[1] Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 12.—Total enrollment in private 4-year institutions of higher education, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1983	2,518	935	350	834	399
1984	2,513	926	346	839	401
1985	2,506	918	342	844	403
1986	2,524	910	343	856	414
1987	2,558	909	346	878	426
1988	2,634	933	347	918	436
1989	2,693	933	360	938	463
1990	2,730	944	361	959	466
1991	2,802	962	367	990	483
1992	2,865	970	375	1,017	503
1993	2,887	973	369	1,037	508
1994	2,924	978	367	1,063	516
1995	2,955	978	364	1,089	523
1996[*]	2,912	938	375	1,075	524
Middle alternative projections					
1997	2,914	918	378	1,089	529
1998	2,961	927	383	1,120	532
1999	2,996	936	384	1,143	533
2000	3,024	947	384	1,160	533
2001	3,046	956	384	1,174	532
2002	3,061	963	384	1,182	532
2003	3,092	973	385	1,201	533
2004	3,127	983	386	1,224	534
2005	3,165	994	387	1,248	536
2006	3,207	1,006	389	1,275	538
2007	3,246	1,019	390	1,298	539
2008	3,288	1,035	391	1,323	540
Low alternative projections					
1997	2,914	918	378	1,089	529
1998	2,961	927	383	1,120	531
1999	2,995	937	384	1,142	533
2000	3,018	947	383	1,156	531
2001	3,036	957	382	1,168	530
2002	3,050	964	382	1,175	529
2003	3,078	975	382	1,192	529
2004	3,108	984	383	1,211	530
2005	3,140	994	384	1,231	531
2006	3,174	1,005	385	1,252	532
2007	3,205	1,017	386	1,271	532
2008	3,240	1,031	386	1,290	533
High alternative projections					
1997	2,914	918	378	1,089	529
1998	2,956	925	383	1,117	532
1999	2,988	933	384	1,137	534
2000	3,016	943	385	1,154	534
2001	3,044	953	385	1,172	535
2002	3,064	960	386	1,184	535
2003	3,098	971	387	1,205	536
2004	3,138	981	388	1,231	538
2005	3,181	993	390	1,258	540
2006	3,228	1,007	391	1,289	542
2007	3,273	1,020	393	1,317	543
2008	3,322	1,037	395	1,346	544

[*] Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 13.—Total enrollment in private 2-year institutions of higher education, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1983	264	88	41	105	30
1984	252	79	37	106	29
1985	261	84	38	110	30
1986	266	83	43	108	32
1987	235	76	28	102	29
1988	260	73	40	103	44
1989	267	76	45	105	41
1990	244	71	34	96	43
1991	247	80	27	109	32
1992	238	74	30	91	43
1993	229	70	31	85	43
1994	221	64	33	82	43
1995	215	60	33	77	45
1996 *	228	65	33	87	43
Middle alternative projections					
1997	229	64	33	88	43
1998	234	65	33	91	44
1999	237	66	33	93	44
2000	239	67	34	94	44
2001	241	68	34	95	44
2002	242	68	34	96	44
2003	244	69	34	97	44
2004	247	70	34	99	44
2005	250	70	34	101	44
2006	253	71	35	103	45
2007	256	72	35	105	45
2008	260	74	35	107	45
Low alternative projections					
1997	229	64	33	88	43
1998	234	65	33	91	44
1999	237	66	33	93	44
2000	239	67	33	94	44
2001	240	68	33	95	44
2002	241	68	34	95	44
2003	243	69	34	96	44
2004	245	70	34	98	44
2005	248	70	34	99	44
2006	250	71	34	101	44
2007	253	72	34	102	44
2008	257	73	35	104	45
High alternative projections					
1997	229	64	33	88	43
1998	233	65	33	91	44
1999	236	66	33	93	44
2000	239	67	34	94	44
2001	241	68	34	95	44
2002	242	68	33	96	44
2003	244	69	34	97	44
2004	248	70	34	99	45
2005	251	70	35	101	45
2006	255	71	35	104	45
2007	259	72	35	106	45
2008	263	74	35	108	45

* Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 14.—Undergraduate enrollment in all institutions, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1983	10,846	3,304	1,854	3,210	2,478
1984	10,618	3,195	1,812	3,153	2,459
1985	10,597	3,156	1,806	3,163	2,471
1986	10,798	3,146	1,871	3,206	2,575
1987	11,046	3,164	1,905	3,299	2,679
1988	11,317	3,206	1,931	3,436	2,743
1989	11,743	3,279	2,032	3,562	2,869
1990	11,959	3,337	2,043	3,639	2,940
1991	12,439	3,436	2,135	3,786	3,082
1992	12,538	3,425	2,158	3,820	3,135
1993	12,324	3,382	2,102	3,797	3,043
1994	12,263	3,342	2,081	3,827	3,013
1995	12,232	3,297	2,105	3,849	2,982
1996*	12,329	3,251	2,125	3,920	3,033
			Middle alternative projections		
1997	12,357	3,210	2,116	3,989	3,042
1998	12,600	3,272	2,144	4,129	3,055
1999	12,773	3,329	2,152	4,225	3,066
2000	12,915	3,383	2,164	4,297	3,071
2001	13,026	3,429	2,168	4,355	3,075
2002	13,087	3,451	2,177	4,382	3,077
2003	13,211	3,491	2,186	4,450	3,084
2004	13,360	3,531	2,202	4,530	3,098
2005	13,511	3,568	2,215	4,617	3,111
2006	13,685	3,616	2,229	4,716	3,123
2007	13,850	3,665	2,246	4,804	3,136
2008	14,045	3,730	2,265	4,901	3,149
			Low alternative projections		
1997	12,357	3,210	2,116	3,989	3,042
1998	12,599	3,273	2,143	4,128	3,055
1999	12,764	3,330	2,150	4,221	3,063
2000	12,886	3,384	2,158	4,282	3,062
2001	12,981	3,432	2,158	4,332	3,060
2002	13,033	3,456	2,164	4,355	3,058
2003	13,146	3,496	2,171	4,417	3,062
2004	13,275	3,533	2,185	4,485	3,074
2005	13,401	3,567	2,196	4,555	3,084
2006	13,546	3,611	2,207	4,636	3,093
2007	13,685	3,657	2,220	4,706	3,102
2008	13,849	3,718	2,236	4,783	3,113
			High alternative projections		
1997	12,357	3,210	2,116	3,989	3,042
1998	12,585	3,267	2,144	4,117	3,057
1999	12,748	3,319	2,154	4,204	3,070
2000	12,896	3,370	2,169	4,278	3,079
2001	13,027	3,417	2,176	4,347	3,087
2002	13,108	3,442	2,187	4,387	3,092
2003	13,247	3,483	2,198	4,465	3,101
2004	13,412	3,525	2,215	4,555	3,116
2005	13,579	3,565	2,229	4,654	3,130
2006	13,773	3,617	2,245	4,768	3,144
2007	13,960	3,670	2,262	4,870	3,158
2008	14,180	3,739	2,283	4,985	3,173

* Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 15.—Undergraduate enrollment in public institutions, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1983	8,697	2,482	1,635	2,385	2,195
1984	8,493	2,390	1,600	2,325	2,179
1985	8,477	2,357	1,596	2,331	2,193
1986	8,661	2,351	1,652	2,367	2,291
1987	8,919	2,375	1,701	2,449	2,393
1988	9,103	2,399	1,714	2,550	2,439
1989	9,488	2,470	1,801	2,663	2,553
1990	9,710	2,527	1,826	2,734	2,623
1991	10,148	2,610	1,921	2,851	2,766
1992	10,216	2,602	1,935	2,883	2,797
1993	10,012	2,566	1,882	2,860	2,704
1994	9,945	2,532	1,863	2,875	2,676
1995	9,904	2,491	1,889	2,885	2,638
1996*	10,004	2,463	1,905	2,944	2,692
			Middle alternative projections		
1997	10,024	2,433	1,895	2,996	2,700
1998	10,213	2,481	1,921	3,100	2,712
1999	10,345	2,524	1,928	3,171	2,721
2000	10,452	2,563	1,939	3,224	2,726
2001	10,536	2,598	1,943	3,266	2,729
2002	10,581	2,614	1,951	3,286	2,731
2003	10,676	2,644	1,959	3,336	2,737
2004	10,793	2,674	1,973	3,396	2,750
2005	10,910	2,702	1,985	3,461	2,761
2006	11,044	2,738	1,998	3,536	2,772
2007	11,173	2,775	2,013	3,601	2,784
2008	11,324	2,825	2,030	3,673	2,796
			Low alternative projections		
1997	10,024	2,433	1,895	2,996	2,700
1998	10,212	2,481	1,921	3,099	2,711
1999	10,338	2,524	1,926	3,168	2,718
2000	10,429	2,564	1,934	3,213	2,718
2001	10,499	2,600	1,933	3,249	2,716
2002	10,537	2,617	1,939	3,266	2,715
2003	10,623	2,647	1,945	3,312	2,718
2004	10,724	2,675	1,958	3,362	2,728
2005	10,820	2,701	1,968	3,415	2,737
2006	10,932	2,734	1,978	3,475	2,746
2007	11,041	2,769	1,990	3,527	2,754
2008	11,168	2,816	2,004	3,585	2,764
			High alternative projections		
1997	10,024	2,433	1,895	2,996	2,700
1998	10,202	2,477	1,921	3,091	2,713
1999	10,327	2,516	1,930	3,156	2,725
2000	10,440	2,553	1,944	3,209	2,733
2001	10,540	2,589	1,950	3,261	2,740
2002	10,601	2,607	1,960	3,290	2,745
2003	10,708	2,638	1,970	3,348	2,753
2004	10,836	2,670	1,985	3,415	2,766
2005	10,965	2,700	1,998	3,489	2,779
2006	11,115	2,739	2,012	3,574	2,791
2007	11,261	2,779	2,028	3,651	2,803
2008	11,432	2,832	2,046	3,737	2,817

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 16.—Undergraduate enrollment in private institutions, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1983	2,149	823	219	824	283
1984	2,125	805	212	827	280
1985	2,120	800	210	832	278
1986	2,137	796	219	839	284
1987	2,128	788	204	850	286
1988	2,213	807	217	886	304
1989	2,255	808	231	899	316
1990	2,250	810	217	905	317
1991	2,291	825	215	935	316
1992	2,321	823	223	936	338
1993	2,312	816	220	937	338
1994	2,317	810	218	952	338
1995	2,328	806	216	963	344
1996 *	2,325	788	220	976	341
			Middle alternative projections		
1997	2,333	777	220	994	342
1998	2,387	792	223	1,029	344
1999	2,428	806	224	1,054	345
2000	2,462	819	225	1,073	345
2001	2,490	831	225	1,088	345
2002	2,505	837	226	1,096	346
2003	2,535	847	227	1,114	347
2004	2,567	857	229	1,134	348
2005	2,601	866	230	1,156	350
2006	2,641	878	231	1,181	351
2007	2,678	890	233	1,203	352
2008	2,721	905	235	1,227	353
			Low alternative projections		
1997	2,333	777	220	994	342
1998	2,387	792	223	1,029	343
1999	2,427	806	224	1,053	344
2000	2,457	820	224	1,069	344
2001	2,483	832	224	1,083	344
2002	2,496	838	225	1,089	344
2003	2,524	849	226	1,105	344
2004	2,552	857	227	1,122	345
2005	2,580	866	228	1,140	346
2006	2,614	877	229	1,161	347
2007	2,645	888	230	1,179	348
2008	2,681	902	232	1,198	349
			High alternative projections		
1997	2,333	777	220	994	342
1998	2,383	791	223	1,026	344
1999	2,421	803	224	1,049	345
2000	2,456	816	225	1,068	346
2001	2,488	828	226	1,087	347
2002	2,507	835	227	1,097	348
2003	2,540	845	228	1,117	349
2004	2,575	855	230	1,140	350
2005	2,613	865	232	1,165	352
2006	2,658	878	233	1,194	353
2007	2,700	891	235	1,219	355
2008	2,748	907	237	1,248	356

* Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 17.—Graduate enrollment in all institutions, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1983	1,340	286	391	211	452
1984	1,345	286	386	215	459
1985	1,376	289	388	220	479
1986	1,435	294	399	228	514
1987	1,452	294	400	233	525
1988	1,472	304	393	249	526
1989	1,522	309	401	263	548
1990	1,586	321	416	278	571
1991	1,639	341	419	300	578
1992	1,669	351	421	314	582
1993	1,688	355	416	334	584
1994	1,721	359	417	347	598
1995	1,732	356	412	361	604
1996*	1,720	333	430	336	621
Middle alternative projections					
1997	1,716	318	437	330	631
1998	1,716	310	442	329	635
1999	1,714	305	443	329	637
2000	1,706	301	443	326	636
2001	1,698	299	440	326	633
2002	1,699	300	439	328	632
2003	1,703	301	438	333	631
2004	1,715	304	439	340	632
2005	1,728	307	439	348	634
2006	1,737	309	439	354	635
2007	1,746	312	439	360	635
2008	1,752	315	439	364	634
Low alternative projections					
1997	1,716	318	437	330	631
1998	1,716	310	442	329	635
1999	1,713	305	443	328	636
2000	1,701	301	441	325	634
2001	1,692	299	438	324	630
2002	1,690	300	437	326	627
2003	1,693	302	435	330	626
2004	1,703	305	435	336	627
2005	1,712	307	435	342	627
2006	1,718	309	435	347	628
2007	1,723	311	434	350	627
2008	1,725	314	434	353	625
High alternative projections					
1997	1,716	318	437	330	631
1998	1,715	309	442	328	636
1999	1,711	304	443	326	638
2000	1,704	299	443	324	637
2001	1,700	297	442	324	636
2002	1,703	298	441	328	635
2003	1,709	300	440	334	635
2004	1,723	303	441	342	636
2005	1,738	306	442	351	638
2006	1,750	309	442	359	640
2007	1,761	312	443	366	640
2008	1,770	315	443	372	640

* Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 18.—Graduate enrollment in public institutions, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1983	872	184	235	140	313
1984	870	182	229	142	317
1985	890	181	232	144	333
1986	941	188	244	150	358
1987	945	185	244	152	364
1988	949	193	236	163	357
1989	978	195	242	171	369
1990	1,023	203	253	180	388
1991	1,050	215	255	192	388
1992	1,058	221	253	200	384
1993	1,064	221	252	207	383
1994	1,075	220	251	214	388
1995	1,074	218	246	221	389
1996[*]	1,078	206	259	209	405
			Middle alternative projections		
1997	1,076	196	263	205	412
1998	1,077	191	266	204	415
1999	1,075	189	267	204	416
2000	1,070	186	266	203	415
2001	1,065	185	265	202	413
2002	1,065	185	264	204	412
2003	1,068	186	264	207	411
2004	1,076	188	264	211	412
2005	1,084	190	264	216	413
2006	1,090	191	264	220	414
2007	1,095	193	264	223	414
2008	1,098	195	264	226	414
			Low alternative projections		
1997	1,076	196	263	205	412
1998	1,076	192	266	204	414
1999	1,074	189	266	204	415
2000	1,067	186	265	202	413
2001	1,061	185	264	201	411
2002	1,060	186	263	202	409
2003	1,062	187	262	205	408
2004	1,068	188	262	209	409
2005	1,074	190	262	212	409
2006	1,077	191	261	215	409
2007	1,080	193	261	218	409
2008	1,082	194	261	219	408
			High alternative projections		
1997	1,076	196	263	205	412
1998	1,075	191	266	203	415
1999	1,073	188	267	203	416
2000	1,069	185	267	201	416
2001	1,066	184	266	202	415
2002	1,068	184	265	204	414
2003	1,072	186	265	207	414
2004	1,081	188	265	213	415
2005	1,090	189	266	218	416
2006	1,097	191	266	223	417
2007	1,105	193	266	227	418
2008	1,110	195	267	231	417

[*] Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 19.—Graduate enrollment in private institutions, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1983	468	103	156	71	138
1984	475	104	156	75	142
1985	486	108	156	76	147
1986	494	106	155	78	156
1987	507	108	156	82	161
1988	522	111	157	86	168
1989	544	114	159	92	179
1990	563	118	163	98	184
1991	589	126	164	109	190
1992	611	130	168	114	198
1993	625	133	164	126	201
1994	647	138	166	133	210
1995	659	138	166	140	215
1996[*]	641	127	171	127	216
Middle alternative projections					
1997	640	121	174	125	219
1998	640	118	176	125	221
1999	639	116	177	125	221
2000	636	115	176	124	221
2001	633	114	176	123	220
2002	633	114	175	124	220
2003	635	115	175	126	219
2004	639	116	175	129	220
2005	644	117	175	132	220
2006	648	118	175	134	221
2007	651	119	175	136	221
2008	653	120	175	138	220
Low alternative projections					
1997	640	121	174	125	219
1998	640	118	176	125	221
1999	638	116	176	124	221
2000	634	115	176	123	220
2001	631	114	175	123	219
2002	630	115	174	124	218
2003	631	115	173	125	218
2004	635	116	173	127	218
2005	638	117	173	130	218
2006	641	118	173	131	218
2007	643	119	173	133	218
2008	643	120	173	134	217
High alternative projections					
1997	640	121	174	125	219
1998	639	118	176	124	221
1999	638	116	177	124	222
2000	635	114	177	123	221
2001	633	113	176	123	221
2002	635	114	176	124	221
2003	637	114	175	127	221
2004	642	116	176	130	221
2005	648	117	176	133	222
2006	652	118	176	136	222
2007	657	119	176	139	223
2008	660	120	177	141	222

[*] Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 20.—First-professional enrollment in all institutions, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1983	279	169	19	81	10
1984	279	166	19	83	10
1985	274	162	17	84	10
1986	270	159	15	87	9
1987	268	154	16	88	10
1988	267	151	16	90	10
1989	274	153	16	95	10
1990	273	150	17	96	11
1991	281	152	18	100	11
1992	281	151	18	101	11
1993	292	154	19	106	14
1994	295	155	19	108	12
1995	298	155	19	111	12
1996*	285	146	19	106	13
		Middle alternative projections			
1997	277	139	20	105	13
1998	273	136	20	104	13
1999	271	134	20	104	13
2000	269	132	20	103	13
2001	267	131	20	103	13
2002	268	132	20	104	13
2003	270	132	20	105	13
2004	274	134	20	108	13
2005	278	135	20	110	13
2006	281	136	20	112	13
2007	284	137	20	114	13
2008	286	138	20	115	13
		Low alternative projections			
1997	277	139	20	105	13
1998	273	136	20	104	13
1999	271	134	20	104	13
2000	268	132	20	103	13
2001	267	131	20	103	13
2002	268	132	20	103	13
2003	270	133	19	105	13
2004	273	134	19	106	13
2005	276	135	19	108	13
2006	278	136	19	110	13
2007	280	137	19	111	13
2008	282	138	19	112	13
		High alternative projections			
1997	277	139	20	105	13
1998	272	136	20	104	13
1999	270	133	20	103	13
2000	267	131	20	103	13
2001	266	131	20	103	13
2002	268	131	20	104	13
2003	270	132	20	106	13
2004	274	133	20	108	13
2005	279	135	20	111	13
2006	282	136	20	114	13
2007	286	137	20	116	13
2008	289	139	20	118	13

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 21.—First-professional enrollment in public institutions, by sex and attendance status, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1983	113	71	3	37	2
1984	114	70	3	38	2
1985	112	69	3	38	2
1986	112	67	3	39	2
1987	110	65	3	40	2
1988	109	64	2	41	2
1989	113	65	2	43	2
1990	112	63	3	44	2
1991	111	62	3	45	2
1992	111	61	3	45	2
1993	114	61	3	47	3
1994	114	61	3	48	2
1995	115	61	3	49	2
1996*	111	58	3	47	2
			Middle alternative projections		
1997	107	56	3	46	2
1998	106	54	3	46	2
1999	105	53	3	46	2
2000	104	53	3	46	2
2001	103	52	3	46	2
2002	104	52	3	46	2
2003	105	53	3	47	2
2004	106	53	3	48	2
2005	108	54	3	49	2
2006	109	54	3	50	2
2007	110	55	3	51	2
2008	111	55	3	51	2
			Low alternative projections		
1997	107	56	3	46	2
1998	106	54	3	46	2
1999	105	53	3	46	2
2000	104	53	3	46	2
2001	103	52	3	46	2
2002	104	52	3	46	2
2003	104	53	3	46	2
2004	106	53	3	47	2
2005	107	54	3	48	2
2006	108	54	3	49	2
2007	109	54	3	49	2
2008	110	55	3	50	2
			High alternative projections		
1997	107	56	3	46	2
1998	105	54	3	46	2
1999	104	53	3	46	2
2000	103	52	3	46	2
2001	103	52	3	46	2
2002	104	52	3	46	2
2003	105	52	3	47	2
2004	106	53	3	48	2
2005	108	54	3	49	2
2006	110	54	3	50	2
2007	111	55	3	51	2
2008	113	55	3	52	2

*Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 22.—First-professional enrollment in private institutions, by sex and attendance status, with alternative projections: 50 states and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Men		Women	
		Full-time	Part-time	Full-time	Part-time
1983	165	97	16	44	8
1984	165	96	16	43	8
1985	162	93	14	46	8
1986	158	91	12	48	7
1987	158	88	14	48	8
1988	158	87	14	49	8
1989	162	87	14	52	9
1990	162	86	15	52	9
1991	169	90	15	55	9
1992	170	90	15	56	9
1993	179	93	16	59	11
1994	181	94	16	60	10
1995	183	94	16	62	10
1996 *	174	88	16	59	11
Middle alternative projections					
1997	169	84	17	58	11
1998	167	82	17	58	11
1999	166	81	17	58	11
2000	165	80	17	57	11
2001	164	79	17	57	11
2002	164	79	17	58	11
2003	166	80	17	59	11
2004	168	80	17	60	11
2005	170	81	17	61	11
2006	172	82	17	62	11
2007	173	82	17	63	11
2008	175	83	17	64	11
Low alternative projections					
1997	169	84	17	58	11
1998	167	82	17	58	11
1999	166	81	17	58	11
2000	164	80	17	57	11
2001	164	79	17	57	11
2002	164	79	17	57	11
2003	165	80	17	58	11
2004	167	81	17	59	11
2005	169	81	17	60	11
2006	170	82	17	61	11
2007	171	82	17	62	11
2008	172	83	17	62	11
High alternative projections					
1997	169	84	17	58	11
1998	167	82	17	58	11
1999	165	80	17	57	11
2000	164	79	17	57	11
2001	163	79	17	57	11
2002	164	79	17	58	11
2003	166	79	17	59	11
2004	168	80	17	60	11
2005	170	81	17	62	11
2006	173	82	17	63	11
2007	175	83	17	64	11
2008	177	83	17	65	11

* Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 23.—Full-time-equivalent enrollment in all institutions of higher education, by level of student and type of institution, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Undergraduate		Graduate	First-professional
		4-year	2-year	4-year	4-year
1983	9,166	5,254	2,841	805	266
1984	8,952	5,215	2,659	814	263
1985	8,943	5,204	2,649	829	261
1986	9,064	5,241	2,704	859	259
1987	9,230	5,363	2,743	868	256
1988	9,464	5,517	2,800	892	256
1989	9,781	5,628	2,967	922	265
1990	9,983	5,744	3,016	963	261
1991	10,361	5,804	3,280	1,010	267
1992	10,437	5,822	3,308	1,036	270
1993	10,351	5,787	3,231	1,056	278
1994	10,348	5,776	3,211	1,080	282
1995	10,335	5,798	3,163	1,091	284
1996 *	10,340	5,795	3,219	1,056	270
			Middle alternative projections		
1997	10,346	5,815	3,227	1,042	262
1998	10,553	5,965	3,293	1,036	258
1999	10,707	6,081	3,338	1,032	256
2000	10,829	6,182	3,368	1,025	254
2001	10,930	6,264	3,393	1,021	253
2002	10,986	6,307	3,403	1,023	254
2003	11,108	6,391	3,432	1,029	256
2004	11,253	6,479	3,475	1,040	259
2005	11,401	6,574	3,513	1,051	263
2006	11,570	6,686	3,558	1,060	266
2007	11,728	6,788	3,603	1,068	269
2008	11,910	6,907	3,658	1,075	271
			Low alternative projections		
1997	10,346	5,815	3,227	1,042	262
1998	10,553	5,965	3,293	1,036	258
1999	10,702	6,079	3,335	1,032	256
2000	10,808	6,170	3,361	1,023	253
2001	10,897	6,246	3,381	1,017	252
2002	10,949	6,288	3,389	1,019	253
2003	11,062	6,367	3,416	1,024	255
2004	11,187	6,443	3,453	1,033	258
2005	11,310	6,523	3,484	1,041	261
2006	11,450	6,619	3,521	1,048	263
2007	11,583	6,705	3,559	1,053	266
2008	11,735	6,806	3,605	1,057	267
			High alternative projections		
1997	10,346	5,815	3,227	1,042	262
1998	10,534	5,953	3,289	1,034	258
1999	10,673	6,060	3,330	1,029	255
2000	10,797	6,161	3,362	1,022	252
2001	10,916	6,253	3,392	1,020	252
2002	10,991	6,307	3,407	1,024	253
2003	11,128	6,400	3,441	1,031	256
2004	11,288	6,497	3,488	1,043	260
2005	11,454	6,603	3,531	1,056	264
2006	11,644	6,728	3,581	1,067	268
2007	11,826	6,843	3,633	1,078	271
2008	12,035	6,979	3,694	1,087	275

* Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 24.—Full-time-equivalent enrollment in public institutions of higher education, by level of student and type of institution, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Undergraduate		Graduate	First-professional
		4-year	2-year	4-year	4-year
1983	6,881	3,635	2,616	520	111
1984	6,685	3,605	2,447	521	111
1985	6,668	3,601	2,428	529	110
1986	6,778	3,629	2,483	556	110
1987	6,938	3,731	2,542	557	108
1988	7,097	3,827	2,592	571	107
1989	7,372	3,921	2,752	587	112
1990	7,558	4,015	2,819	615	109
1991	7,863	4,046	3,068	640	109
1992	7,912	4,037	3,114	652	109
1993	7,812	3,996	3,047	658	111
1994	7,784	3,971	3,035	665	113
1995	7,752	3,976	2,995	668	113
1996[1]	7,790	3,991	3,037	654	108
Middle alternative projections					
1997	7,799	4,004	3,044	645	105
1998	7,959	4,107	3,106	642	104
1999	8,076	4,187	3,147	639	103
2000	8,168	4,256	3,176	635	102
2001	8,244	4,312	3,199	632	101
2002	8,285	4,342	3,208	634	102
2003	8,375	4,400	3,236	637	103
2004	8,483	4,460	3,275	644	104
2005	8,593	4,525	3,311	651	106
2006	8,718	4,602	3,353	656	107
2007	8,836	4,671	3,395	662	108
2008	8,974	4,753	3,445	666	109
Low alternative projections					
1997	7,799	4,004	3,044	645	105
1998	7,958	4,107	3,106	642	104
1999	8,072	4,185	3,145	639	103
2000	8,152	4,248	3,169	634	102
2001	8,219	4,300	3,188	630	101
2002	8,256	4,328	3,195	631	101
2003	8,339	4,383	3,220	634	102
2004	8,433	4,435	3,254	640	104
2005	8,524	4,490	3,284	645	105
2006	8,628	4,556	3,318	649	106
2007	8,728	4,615	3,354	653	107
2008	8,843	4,684	3,396	655	108
High alternative projections					
1997	7,799	4,004	3,044	645	105
1998	7,945	4,099	3,102	641	103
1999	8,051	4,172	3,140	637	102
2000	8,145	4,241	3,170	633	101
2001	8,235	4,304	3,198	631	101
2002	8,290	4,342	3,212	634	101
2003	8,391	4,406	3,244	639	103
2004	8,510	4,472	3,287	646	104
2005	8,632	4,544	3,328	654	106
2006	8,774	4,631	3,375	661	108
2007	8,909	4,710	3,423	668	109
2008	9,066	4,803	3,480	673	111

[1] Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Table 25.—Full-time-equivalent enrollment in private institutions of higher education, by level of student and type of institution, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total	Undergraduate		Graduate	First-professional
		4-year	2-year	4-year	4-year
1983	2,285	1,619	226	285	155
1984	2,267	1,610	212	293	152
1985	2,276	1,603	221	300	151
1986	2,286	1,613	221	303	149
1987	2,292	1,632	201	311	148
1988	2,367	1,690	209	321	149
1989	2,409	1,707	216	335	153
1990	2,425	1,729	197	348	152
1991	2,498	1,758	212	370	158
1992	2,525	1,785	194	384	161
1993	2,539	1,791	184	398	167
1994	2,564	1,805	176	415	169
1995	2,583	1,822	168	423	171
1996[1]	2,550	1,804	182	402	162
			Middle alternative projections		
1997	2,547	1,811	183	397	157
1998	2,595	1,858	187	395	155
1999	2,631	1,895	190	393	154
2000	2,661	1,926	192	390	152
2001	2,686	1,952	194	389	151
2002	2,701	1,965	195	389	152
2003	2,733	1,992	197	392	153
2004	2,770	2,019	200	396	155
2005	2,809	2,049	202	400	157
2006	2,852	2,084	205	403	159
2007	2,892	2,116	208	406	161
2008	2,937	2,154	212	409	162
			Low alternative projections		
1997	2,547	1,811	183	397	157
1998	2,595	1,858	187	394	155
1999	2,630	1,894	190	393	154
2000	2,656	1,923	192	389	152
2001	2,678	1,946	194	387	151
2002	2,693	1,959	194	388	152
2003	2,722	1,984	196	390	153
2004	2,754	2,008	198	393	155
2005	2,786	2,033	201	396	156
2006	2,822	2,063	203	399	157
2007	2,855	2,090	206	401	159
2008	2,893	2,122	209	402	160
			High alternative projections		
1997	2,547	1,811	183	397	157
1998	2,589	1,854	187	394	154
1999	2,622	1,888	190	392	153
2000	2,652	1,919	192	389	151
2001	2,681	1,948	194	388	151
2002	2,702	1,965	195	390	152
2003	2,737	1,995	197	392	153
2004	2,778	2,025	200	397	155
2005	2,821	2,058	203	402	158
2006	2,871	2,098	207	406	160
2007	2,916	2,134	210	410	162
2008	2,968	2,176	214	414	164

[1] Projected

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1995. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Fall Enrollment in Colleges and Universities" surveys and Integrated Postsecondary Education Data System (IPEDS) surveys. (This table was prepared October 1997.)

Chapter 3

High School Graduates

The number of high school graduates is projected to increase over the projection period. This increase in the number of high school graduates reflects the overall change in the 18-year-old population during the same period (figure 29). Increases in the number of graduates are expected for both public and private schools. However, projections of graduates could be impacted by changes in policies affecting graduation requirements.

The tabulations below provide the following information about trends in the number of high school graduates: (1) the average annual rate of change (in percent) for 1982–83 to 1995–96 and the projected growth rate for 1995–96 to 2007–08 and (2) the rates of change for 1982–83 to 1989–90 and 1989–90 to 1995–96 and the projected growth rates for 1995–96 to 2001–02 and 2001–02 to 2007–08. (Calculations are based on unrounded numbers.)

Average annual rate of change (in percent)

	1982–83 to 1995–96	Projected
		1995–96 to 2007–08
Total	-0.9	1.5
Public	-0.9	1.5
Private	-0.6	1.5

Average annual rate of change (in percent)

	1982–83 to 1989–90	1989–90 to 1995–96	Projected	
			1995–96 to 2001–02	2001–02 to 2007–08
Total	-1.6	-0.1	1.9	1.2
Public	-1.6	-0.1	1.9	1.2
Private	-1.2	0.1	1.9	1.2

Total High School Graduates

The number of high school graduates from public and private schools decreased from 2.9 million in 1982–83 to 2.6 million in 1985–86 (table 26 and figure 30). After 1985–86, this number increased to 2.8 million in 1987–88. Then, it decreased to around 2.6 million in 1995–96, a decrease of 11 percent from 1982–83, or an average annual rate of decline of 0.9 percent. Then, the total number of high school graduates is projected to rise to 3.1 million by 2007–08, an increase of 20 percent from 1995–96, or an average annual growth rate of 1.5 percent. During the projection period, the growth rate will be higher in the first half of the projection period (1995–96 to 2001–02) than the growth rate in the second half (2001–02 to 2007–08), 1.9 percent per year versus 1.2 percent per year.

High School Graduates, by Control of Institution

The number of graduates of public high schools decreased from 2.6 million in 1982–83 to 2.4 million in 1985–86 (figure 31). Then, it increased to 2.5 million in 1987–88 before declining to about 2.3 million in 1995–96, a decrease of 11 percent from 1982–83, or an average annual rate of decline of 0.9 percent. Over the projection period, public high school graduates are projected to increase to 2.8 million by 2007–08, an increase of 20 percent from 1995–96, or an average annual growth rate of 1.5 percent. During the projection period, the growth rate will be higher in the first half of the projection period (1995–96 to 2001–02) than the growth rate in the second half (2001–02 to 2007–08), 1.9 percent per year versus 1.2 percent per year (figure 32).

The number of graduates of private high schools is projected to increase from an estimated 267,000 in 1995–96 to 321,000 by 2007–08, an increase of 20 percent, or an average annual growth rate of 1.5 percent. During the projection period, the growth rate will be higher in the first half of the projection period (1995–96 to 2001–02) than the growth rate in the second half (2001–02 to 2007–08), 1.9 percent per year versus 1.2 percent per year.

Figure 29

18-year-old population, with projections: 1983 to 2008

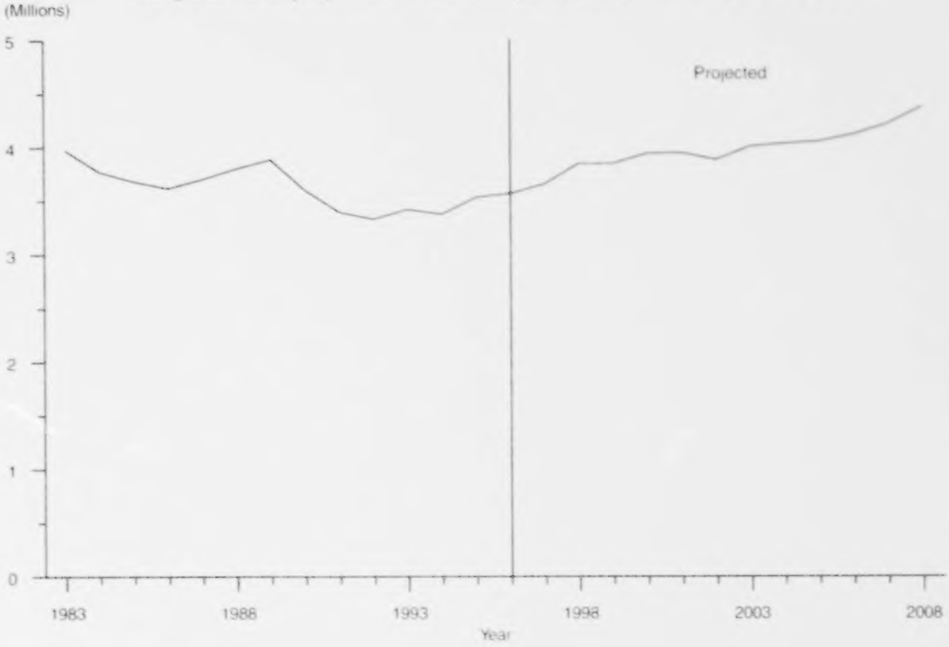


Figure 30

High school graduates, with projections: 1982-83 to 2007-08

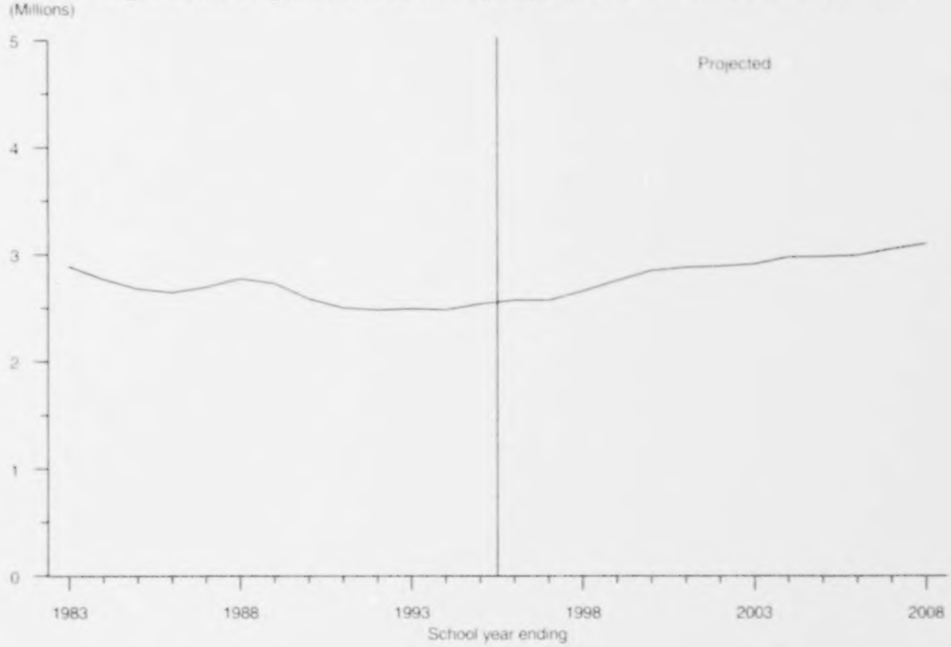


Figure 31
High school graduates, by control of institution, with projections: 1982-83 to 2007-08

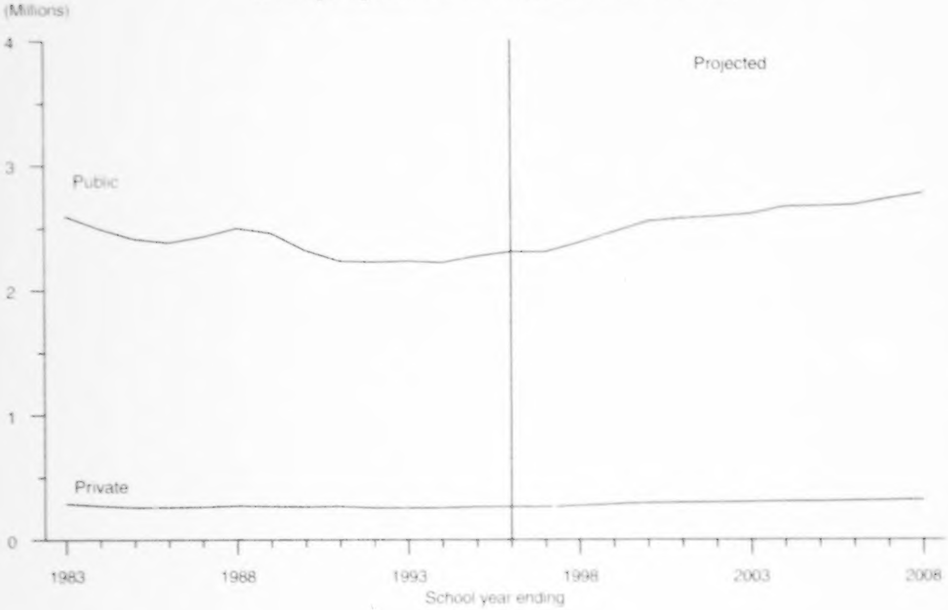


Figure 32
Average annual rates of change for high school graduates

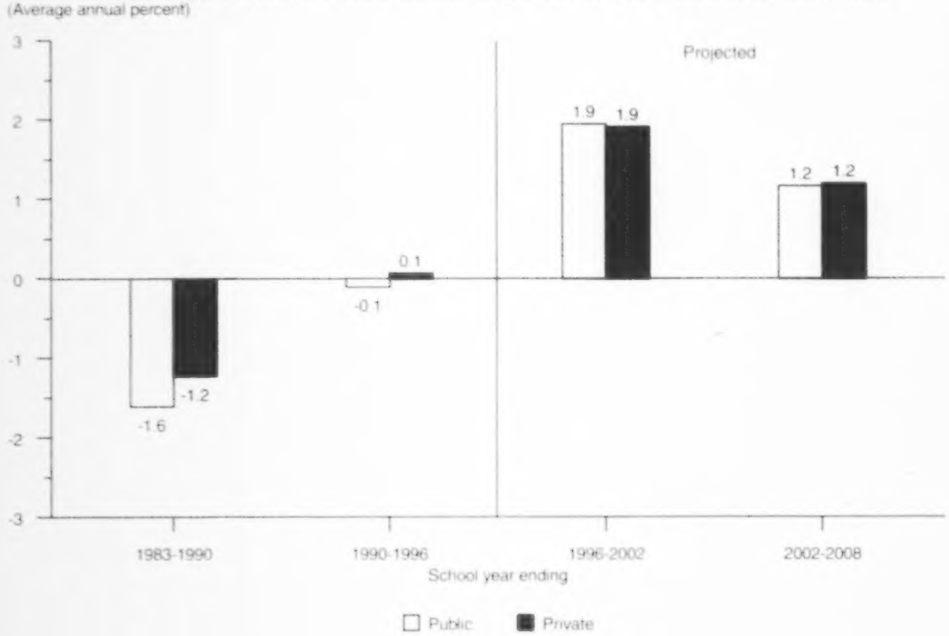


Table 26.—High school graduates, by control of institution, with projections: 50 States and D.C., 1982–83 to 2007–08

(In thousands)

Year ending	Total	Public	Private
1983	2,888	2,598	290
1984	2,767	2,495	272
1985	2,677	2,414	263
1986	2,643	2,383	260
1987	2,694	2,429	265
1988	2,773	2,500	273
1989	2,727	2,459	268
1990	2,586	2,320	266
1991	2,503	2,235	268
1992	2,482	2,226	256
1993	2,490	2,233	257
1994	2,479	2,221	258
1995	2,538	2,274	264
1996[1]	2,573	2,306	267
		Projected	
1997	2,573	2,306	267
1998	2,653	2,378	275
1999	2,751	2,465	285
2000	2,847	2,552	295
2001	2,875	2,576	298
2002	2,887	2,587	299
2003	2,909	2,607	302
2004	2,972	2,664	308
2005	2,976	2,667	309
2006	2,985	2,675	310
2007	3,044	2,728	316
2008	3,093	2,772	321

[1] Projected.

NOTE: Historical numbers may differ from those in previous editions. Prior to 1989-90, numbers for private high school graduates were estimated by NCES. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; "Private Elementary and Secondary Education, 1983: Enrollment, Teachers, and Schools," *NCES Bulletin*, December 1984; 1985 Private School Survey; "Key Statistics for Private Elementary and Secondary Education: School Year 1988–89," *Early Estimates*; "Key Statistics for Private Elementary and Secondary Education: School Year 1989-90," *Early Estimates*; "Key Statistics for Private Elementary and Secondary Education: School Year 1990–91," *Early Estimates*; "Public and Private Elementary and Secondary Education Statistics: School Year 1991-92," *Early Estimates*; and "Public and Private Elementary and Secondary Education Statistics: School Year 1992-93," *Early Estimates*. (This table was prepared October 1997.)

Chapter 4

Earned Degrees Conferred

The historical growth in enrollment of women in institutions of higher education has led to a substantial increase in the number of earned degrees conferred. Between 1982–83 and 1995–96, the number of degrees awarded to women rose at all levels. In 1995–96, women earned the majority of associate, bachelor's, and master's degrees, and around two-fifths of doctor's and first-professional degrees. Over the projection period, the number of degrees awarded to men and women will continue to rise at most levels.

Projections of earned degrees by level and sex were developed. In general, the number of degrees was related to college-age populations and higher education enrollment by level enrolled and attendance status.

Associate Degrees

Between 1982–83 and 1984–85, the number of associate degrees increased from 449,620 to 454,712. Thereafter, it decreased to 435,085 in 1987–88. Since then, it increased to an estimated 530,000 in 1995–96 (table 27 and figure 33). This number is expected to decrease to 520,000 in 1997–98. Then, it is projected to increase to 579,000 by 2007–08, an increase of 9 percent from 1995–96. The number of associate degrees awarded to men decreased from 203,991 in 1982–83 to 186,316 in 1988–89, before rising to an estimated 213,000 in 1995–96 (figure 34). This number is projected to decrease to 208,000 by 1999–2000 and then increase to 216,000 by 2007–08. The number of associate degrees awarded to women increased from 245,629 in 1982–83 to 251,780 in 1984–85 and then decreased to 245,038 in 1987–88. Thereafter, it increased to an estimated 316,000 in 1995–96, an increase of 29 percent from 1982–83. This number is projected to decrease to 311,000 by 1997–98. Thereafter, it will increase to 363,000 by 2007–08, an increase of 15 percent from 1995–96.

Bachelor's Degrees

The number of bachelor's degrees increased from 969,510 in 1982–83 to an estimated 1,167,000 in 1995–96, an increase of 20 percent (table 28 and figure 35). This number is expected to rise to 1,172,000 in 1997–98, decrease to 1,161,000 in 1999–2000, and then increase to 1,270,000 by 2007–08, an increase of 9 percent from 1995–96. The number of bachelor's degrees awarded to men increased from 479,140 in 1982–83 to 485,923 in 1985–86 and then declined for two years, before rising to an estimated 525,000 in 1995–96 (figure 36). This number is expected to decrease to 502,000 by 1999–2000 and then increase to 530,000 by 2007–08, an increase of 1 percent from 1995–96. The number of bachelor's degrees awarded to women increased from 490,370 in 1982–83 to an estimated 642,000 in 1995–96, an increase of 31 percent. This number is expected to increase to 739,000 by 2007–08, an increase of 15 percent from 1995–96.

Master's Degrees

The number of master's degrees decreased from 289,921 in 1982–83 to 284,263 in 1983–84, before rising to an estimated 398,000 in 1995–96, an increase of 37 percent from 1982–83 (table 29 and figure 37). This number is expected to increase to 446,000 by 2007–08. The number of master's degrees awarded to men decreased from 144,697 in 1982–83 to 141,269 in 1986–87. Then, it increased to an estimated 179,000 in 1995–96 (figure 38). This number is projected to increase to 203,000 by 2007–08. The number of master's degrees awarded to women decreased from 145,224 in 1982–83 to 140,668 in 1983–84. Since then, it increased to an estimated 219,000 in 1995–96. This number is expected to increase to 243,000 by 2007–08.

Doctor's Degrees

The number of doctor's degrees increased from 32,775 in 1982–83 to about 44,100 in 1995–96, an increase of 35 percent (table 30 and figure 39). This number is expected to increase to 49,500 by 2007–08. The number of doctor's degrees awarded to men increased from 21,902 to an estimated 27,000 in 1995–96. This number is expected to increase to 27,400 in 1999–2000. Then it will decrease to 26,600 by 2007–08 (figure 40). The number of doctor's degrees awarded to women rose from 10,873 in 1982–83 to an estimated 17,100 in 1995–96, an increase of 57 percent. Over the projection period, this pattern is expected to continue. The number of doctor's degrees awarded to women is projected to climb to 22,900 by 2007–08, an increase of 34 percent from 1995–96. The share of doctor's degrees awarded to women, which was 33 percent in 1982–83 and 39 percent in 1995–96, is projected to climb to 46 percent by 2007–08.

First-Professional Degrees

The number of first-professional degrees awarded rose from 73,054 in 1982–83 to 75,063 in 1984–85. Then, it decreased to 70,735 in 1987–88. Thereafter, it increased to about 79,100 in 1995–96 (table 31 and figure 41). This number is expected to increase to 79,700 in 1996–97 and then decrease to 71,800 in 2003–04. Thereafter, it will increase to 75,000 by 2007–08. The number of first-professional degrees awarded to men decreased from 51,250 in 1982–83 to 43,846 in 1990–91 (figure 42). Then, it increased to an estimated 45,700 in 1995–96. This number is projected to increase to 46,100 in 1997-98 and then decrease to 39,800 by 2003–04. Thereafter, it is projected to increase to 40,800 by 2007–08. The number of first-professional degrees awarded to women increased from 21,804 in 1982–83 to an estimated 33,400 in 1995–96, an increase of 53 percent. This number is expected to increase to 34,200 by 2007–08, an increase of 2 percent from 1995–96. The women's proportion of first-professional degrees rose from 30 percent in 1982–83 to 42 percent in 1995–96. By 2007–08, this proportion is expected to rise to 46 percent.

Figure 33
Associate degrees, with projections: 1982-83 to 2007-08

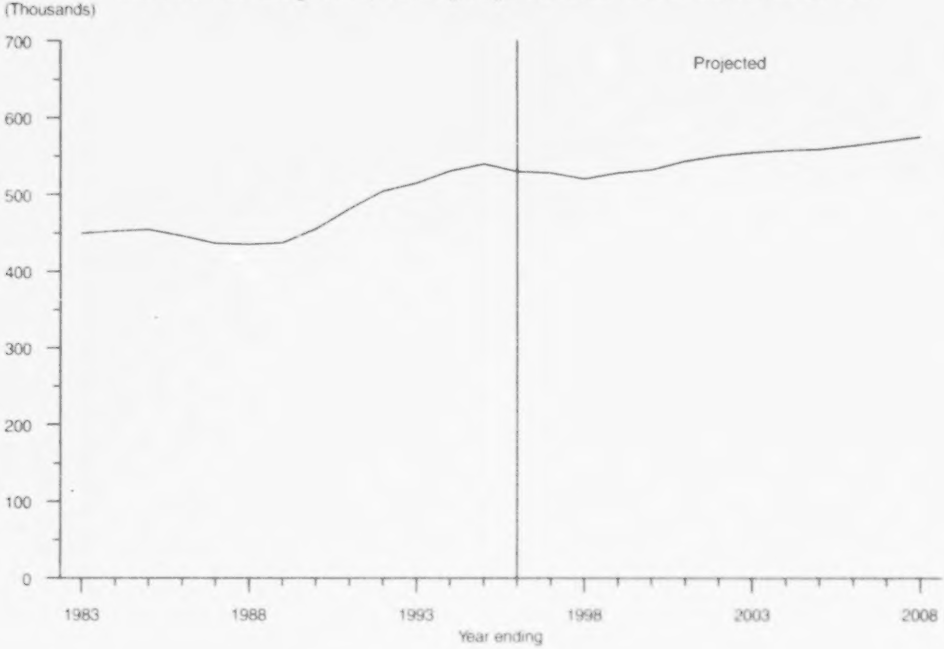


Figure 34
Associate degrees, by sex of recipient, with projections: 1982-83 to 2007-08

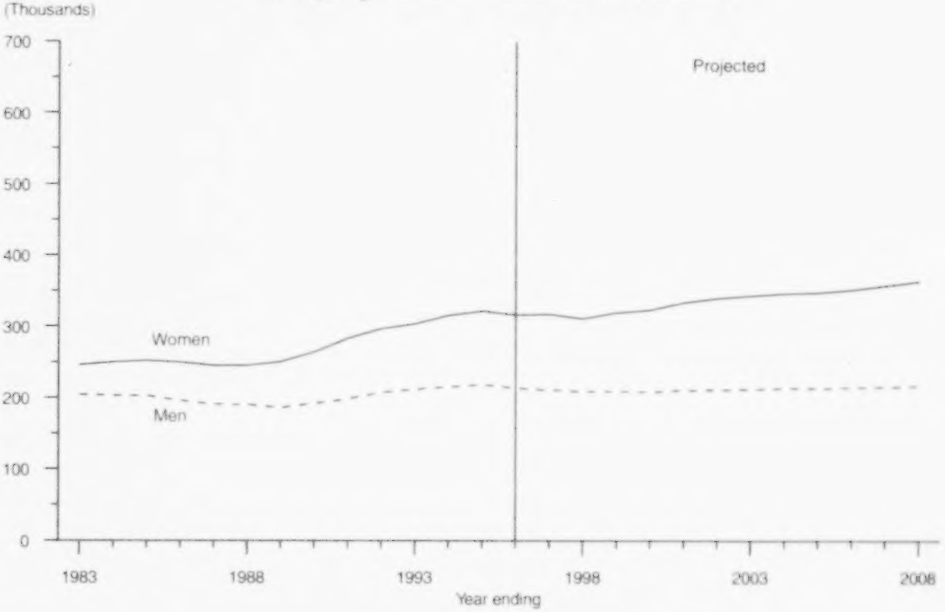


Figure 35
Bachelor's degrees, with projections: 1982-83 to 2007-08

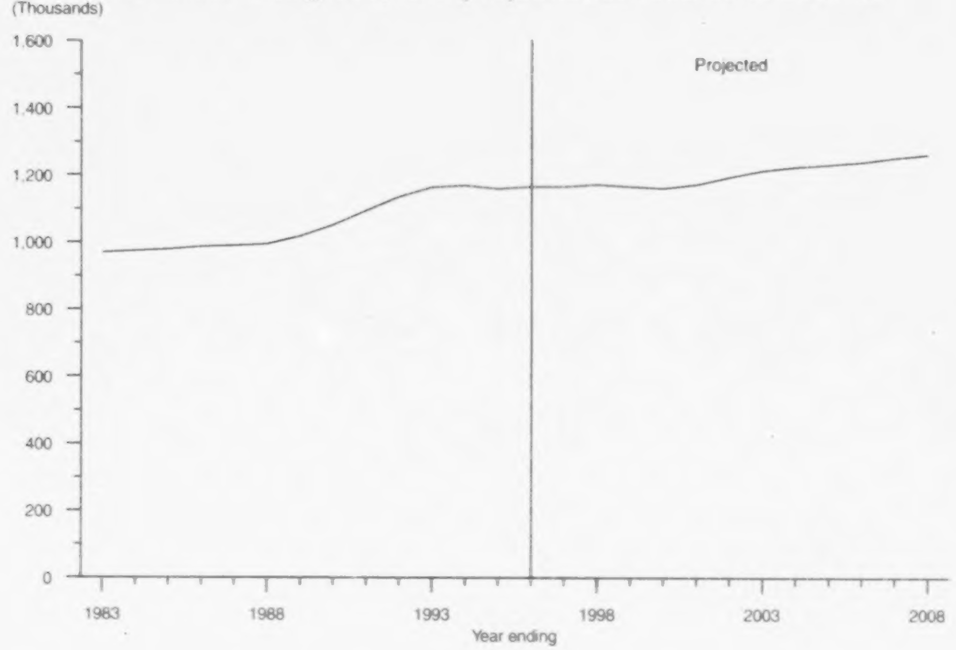


Figure 36
Bachelor's degrees, by sex of recipient, with projections: 1982-83 to 2007-08

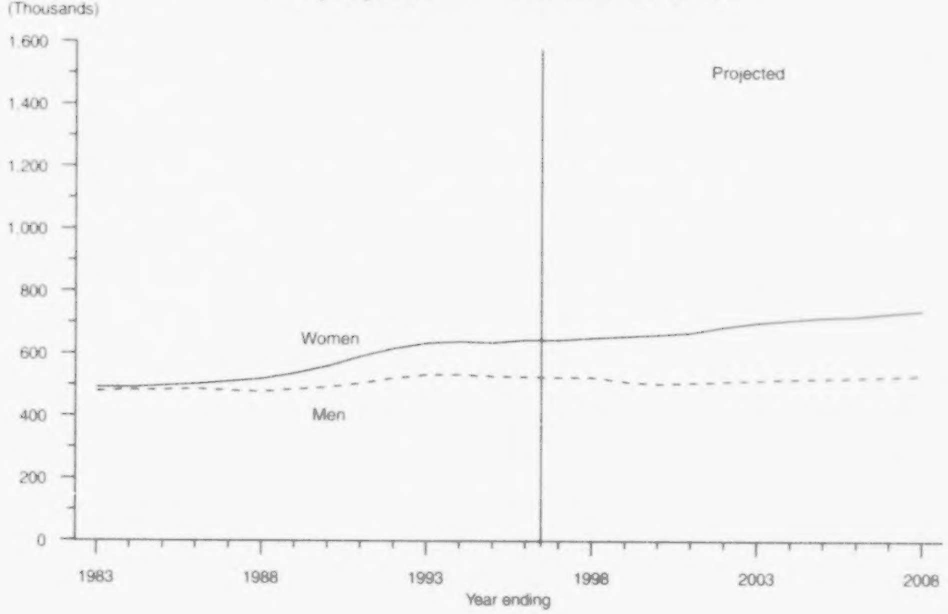


Figure 37

Master's degrees, with projections: 1982-83 to 2007-08

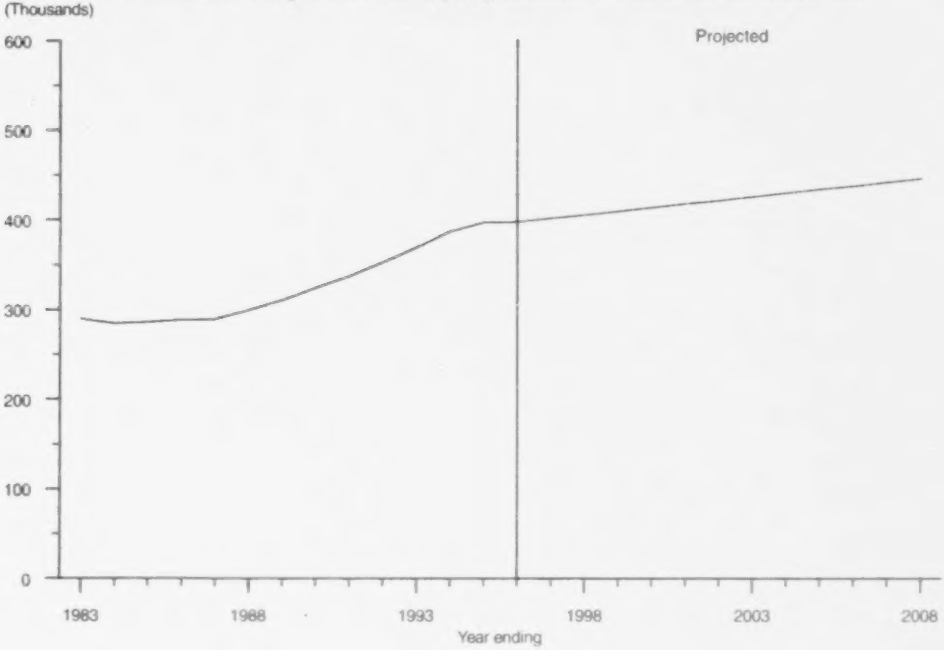


Figure 38

Master's degrees, by sex of recipient, with projections: 1982-83 to 2007-08

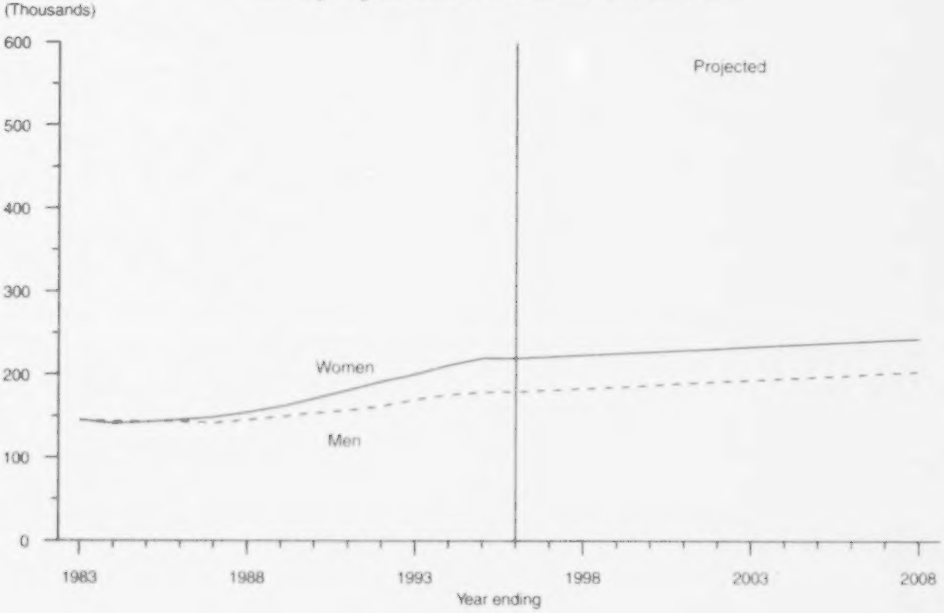


Figure 39
Doctor's degrees, with projections: 1982-83 to 2007-08

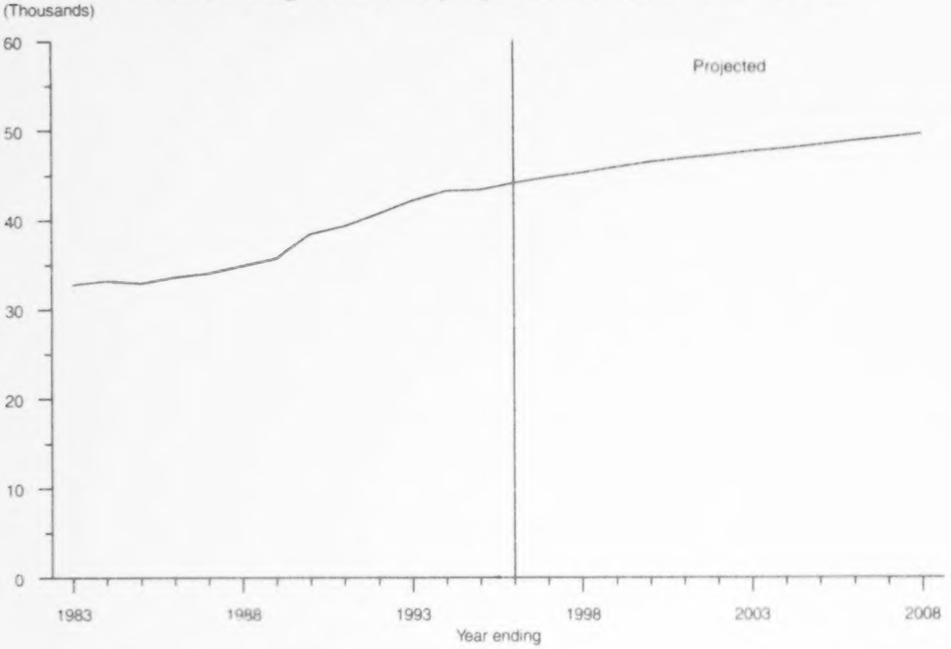


Figure 40
Doctor's degrees, by sex of recipient, with projections: 1982-83 to 2007-08

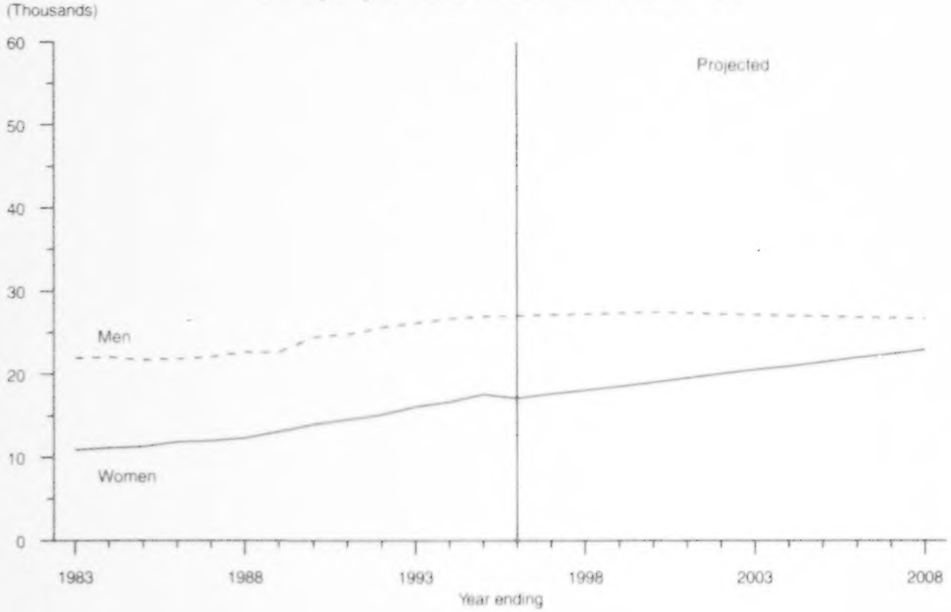


Figure 41
First-professional degrees, with projections: 1982-83 to 2007-08

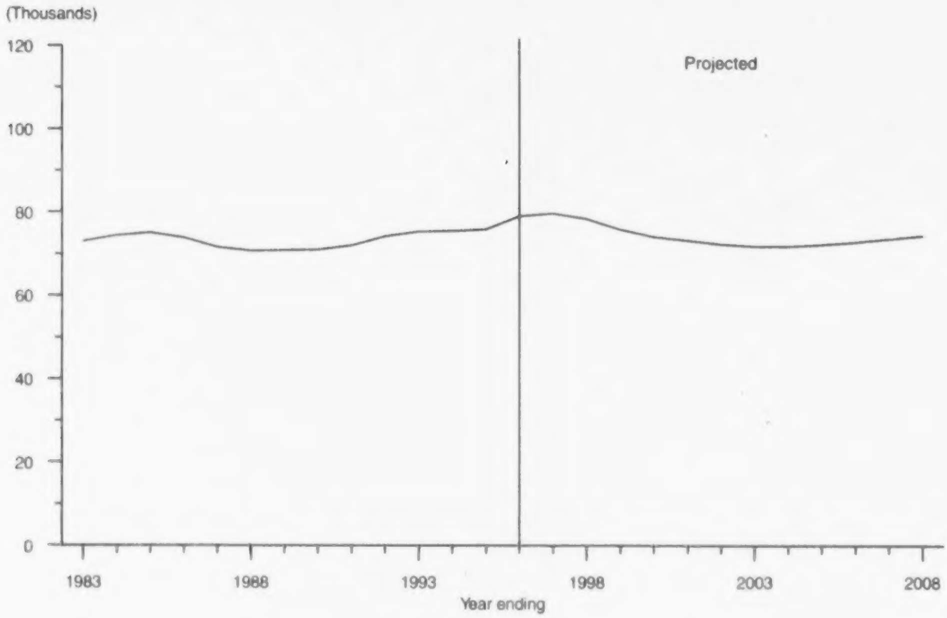


Figure 42
First-professional degrees, by sex of recipient, with projections: 1982-83 to 2007-08

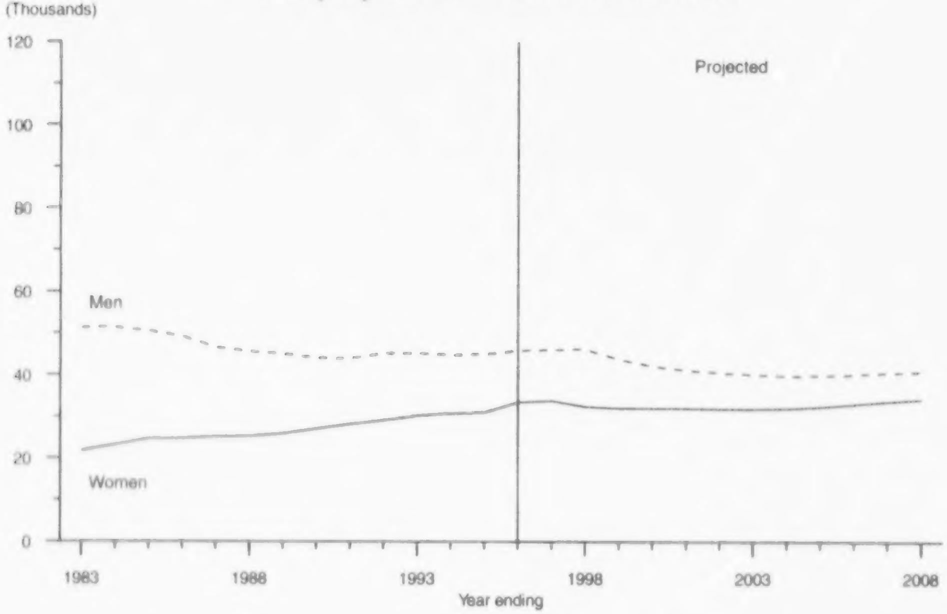


Table 27.—Associate degrees, by sex of recipient, with projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Total	Men	Women
1983	449,620	203,991	245,629
1984	452,240	202,704	249,536
1985	454,712	202,932	251,780
1986	446,047	196,166	249,881
1987	436,304	190,839	245,465
1988	435,085	190,047	245,038
1989	436,764	186,316	250,448
1990	455,102	191,195	263,907
1991	481,720	198,634	283,086
1992	504,231	207,481	296,750
1993	514,756	211,964	302,792
1994	530,632	215,261	315,371
1995	539,691	218,352	321,339
1996 [1]	530,000	213,000	316,000
		Projected	
1997	528,000	211,000	317,000
1998	520,000	209,000	311,000
1999	528,000	209,000	319,000
2000	532,000	208,000	323,000
2001	543,000	210,000	333,000
2002	550,000	211,000	339,000
2003	555,000	212,000	343,000
2004	559,000	213,000	346,000
2005	560,000	213,000	347,000
2006	565,000	214,000	351,000
2007	572,000	215,000	357,000
2008	579,000	216,000	363,000

[1] Projected

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994–95. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey and Integrated Postsecondary Education Data System (IPEDS), "Completions" survey. (This table was prepared October 1997.)

Table 28.—Bachelor's degrees, by sex of recipient, with projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Total	Men	Women
1983	969,510	479,140	490,370
1984	974,309	482,319	491,990
1985	979,477	482,528	496,949
1986	987,823	485,923	501,900
1987	991,264	480,782	510,482
1988	994,829	477,203	517,626
1989	1,018,755	483,346	535,409
1990	1,051,344	491,696	559,648
1991	1,094,538	504,045	590,493
1992	1,136,553	520,811	615,742
1993	1,165,178	532,881	632,297
1994	1,169,275	532,422	636,853
1995	1,160,134	526,131	634,003
1996[*]	1,167,000	525,000	642,000
		Projected	
1997	1,166,000	523,000	643,000
1998	1,172,000	523,000	649,000
1999	1,166,000	510,000	655,000
2000	1,161,000	502,000	659,000
2001	1,173,000	506,000	667,000
2002	1,195,000	510,000	685,000
2003	1,214,000	515,000	699,000
2004	1,227,000	519,000	708,000
2005	1,235,000	520,000	716,000
2006	1,243,000	524,000	719,000
2007	1,256,000	527,000	729,000
2008	1,270,000	530,000	739,000

[*] Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994–95. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey and Integrated Postsecondary Education Data System (IPEDS), "Completions" survey. (This table was prepared October 1997.)

Table 29.—Master's degrees, by sex of recipient, with projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Total	Men	Women
1983	289,921	144,697	145,224
1984	284,263	143,595	140,668
1985	286,251	143,390	142,861
1986	288,567	143,508	145,059
1987	289,349	141,269	148,080
1988	299,317	145,163	154,154
1989	310,621	149,354	161,267
1990	324,301	153,653	170,648
1991	337,168	156,482	180,686
1992	352,838	161,842	190,996
1993	369,585	169,258	200,327
1994	387,070	176,085	210,985
1995	397,629	178,598	219,031
1996 [1]	398,000	179,000	219,000
		Projected	
1997	402,000	181,000	221,000
1998	406,000	183,000	223,000
1999	410,000	185,000	225,000
2000	414,000	187,000	227,000
2001	418,000	189,000	229,000
2002	422,000	191,000	231,000
2003	426,000	193,000	233,000
2004	430,000	195,000	235,000
2005	434,000	197,000	237,000
2006	438,000	199,000	239,000
2007	442,000	201,000	241,000
2008	446,000	203,000	243,000

[1] Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994–95. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey and Integrated Postsecondary Education Data System (IPEDS), "Completions" survey. (This table was prepared October 1997.)

Table 30.—Doctor's degrees, by sex of recipient, with projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Total	Men	Women
1983	32,775	21,902	10,873
1984	33,209	22,064	11,145
1985	32,943	21,700	11,243
1986	33,653	21,819	11,834
1987	34,041	22,061	11,980
1988	34,870	22,615	12,255
1989	35,720	22,648	13,072
1990	38,371	24,401	13,970
1991	39,294	24,756	14,538
1992	40,659	25,557	15,102
1993	42,132	26,073	16,059
1994	43,185	26,552	16,633
1995	44,446	26,916	17,530
1996[*]	44,100	27,000	17,100
		Projected	
1997	44,700	27,100	17,600
1998	45,200	27,200	18,000
1999	45,800	27,300	18,500
2000	46,400	27,400	19,000
2001	46,800	27,300	19,500
2002	47,200	27,200	20,000
2003	47,600	27,100	20,500
2004	47,900	27,000	20,900
2005	48,300	26,900	21,400
2006	48,700	26,800	21,900
2007	49,100	26,700	22,400
2008	49,500	26,600	22,900

[*] Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994–95. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey and Integrated Postsecondary Education Data System (IPEDS), "Completions" survey. (This table was prepared October 1997.)

Table 31.—First-professional degrees, by sex of recipient, with projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Total	Men	Women
1983	73,054	51,250	21,804
1984	74,468	51,378	23,090
1985	75,063	50,455	24,608
1986	73,910	49,261	24,649
1987	71,617	46,523	25,094
1988	70,735	45,484	25,251
1989	70,856	45,046	25,810
1990	70,988	43,961	27,027
1991	71,948	43,846	28,102
1992	74,146	45,071	29,075
1993	75,387	45,153	30,234
1994	75,418	44,707	30,711
1995	75,800	44,853	30,947
1996 [*]	79,100	45,700	33,400
		Projected	
1997	79,700	46,000	33,700
1998	78,400	46,100	32,300
1999	75,800	43,700	32,000
2000	74,000	42,000	32,000
2001	73,100	41,100	32,000
2002	72,400	40,500	31,800
2003	71,900	40,100	31,800
2004	71,800	39,800	32,000
2005	72,300	39,900	32,400
2006	73,100	40,100	33,000
2007	74,100	40,500	33,600
2008	75,000	40,800	34,200

[*] Projected.

NOTE: Historical numbers may differ from those in previous editions. Projections are based on data through 1994–95. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Degrees and Other Formal Awards Conferred" survey and Integrated Postsecondary Education Data System (IPEDS), "Completions" survey. (This table was prepared October 1997.)

Chapter 5

Classroom Teachers

Between 1996 and 2008, the number of classroom teachers in elementary and secondary schools is projected to rise, primarily due to the increase in school enrollment during this period. Increases are expected in the numbers of both elementary and secondary teachers. The number of secondary teachers will increase at a faster rate than the number of elementary teachers. The numbers of both public and private teachers are projected to grow. The projections do not take into account increases in the number of teachers which would be due to the effects of the proposed initiative to reduce elementary class sizes.

Three alternative projections of the numbers of classroom teachers were developed to indicate a range of possible outcomes. These alternatives are based on different assumptions about the growth paths for two of the key variables in the teacher model—disposable income per capita and education revenue receipts from state sources per capita. Under the middle alternative, disposable income per capita is projected to increase by 21 percent between 1996 and 2008, while education revenue receipts from state sources per capita will rise by 14 percent during this period. The low alternative assumes that disposable income per capita and education revenue receipts from state sources per capita will increase by 16 percent and 11 percent, respectively. The high alternative assumes that disposable income per capita and education revenue receipts from state sources per capita will increase by 24 percent and 18 percent, respectively. The third variable in the teacher model, enrollment by organizational level, is the same for all three alternatives.

For classroom teachers, the following tabulations show: (1) the average annual rate of change (in percent) for 1983–96 and the three alternative projected rates of change for 1996–2008 and (2) the rates of change for 1983–90 and 1990–96 and the middle alternative projected rates of change for 1996–2002 and 2002–2008. (Calculations are based on unrounded numbers.)

Average annual rate of change (in percent)

	1983–96	Projected 1996–2008		
		Low	Middle	High
Total	1.6	0.9	1.1	1.3
Elementary	2.0	0.6	0.9	1.0
Secondary	1.0	1.2	1.5	1.6
Public	1.6	0.9	1.1	1.3
Private	1.1	0.8	1.0	1.2

Average annual rate of change (in percent)

(Middle alternative projections)

	1983–90	1990–96	Projected	
			1996–2002	2002–2008
Total	1.5	1.6	1.3	0.9
Elementary	2.4	1.5	1.1	0.6
Secondary	0.3	1.8	1.7	1.2
Public	1.6	1.6	1.3	0.9
Private	0.7	1.4	1.3	0.8

Elementary and Secondary School Teachers

The number of classroom teachers in elementary and secondary schools increased from 2.48 million in 1983 to about 3.03 million in 1996, an increase of 22 percent (table 32 and figure 43). Under the middle alternative, the number of classroom teachers is projected to increase to 3.46 million by the year 2008, increasing at an average annual growth rate of 1.1 percent, for a 14-percent increase over the projection period. The growth rate will be higher in the first half of the projection period (1996–2002) than in the second half (2002–2008), 1.3 percent per year versus 0.9 percent (figure 44). Under the low alternative, the number of classroom teachers is projected to increase to 3.37 million by the year 2008, increasing at an average annual growth rate of 0.9 percent. Under the high alternative, classroom teachers are projected to increase to 3.53 million by the year 2008, increasing at an average annual growth rate of 1.3 percent.

Classroom Teachers, by Organizational Level

The number of elementary teachers increased from 1.43 million in 1983 to 1.84 million in 1996, an increase of 29 percent from 1983 (figure 45). Under the middle alternative, the number of elementary teachers is projected to increase to 2.05 million by 2008, an increase of 11 percent from 1996; this increase represents an average annual growth rate of 0.9 percent per year. During the projection period, the growth rate in the 1996–2002 period will be 1.1 percent, while the growth rate in the 2002–2008 period will be 0.6 percent (figure 46). Under the low alternative, the number of elementary teachers is projected to increase to 1.99 million by the year 2008, increasing at an average annual growth rate of 0.6 percent. Under the high alternative, elementary teachers are projected to increase to 2.09 million by the year 2008, increasing at an average annual growth rate of 1.0 percent.

The number of secondary classroom teachers increased from 1.05 million in 1983 to about 1.19 million in 1996, an increase of 13 percent from 1983. Under the middle alternative, the number of secondary teachers is projected to increase from 1.19 million in 1996 to 1.41 million by the year 2008, resulting in an increase of 19 percent. This increase will represent an average annual growth rate of 1.5 percent over the projection period. During the projection period, the growth rate in the 1996–2002 period will be 1.7 percent, while the growth rate in the 2002–2008 period will be 1.2 percent. Under the low alternative, the number of secondary teachers is projected to increase to 1.38 million by the year 2008, increasing at an average annual growth rate of 1.2 percent. Under the high alternative, secondary teachers are projected to increase to 1.44 million by the year 2008, increasing at an average annual growth rate of 1.6 percent.

Classroom Teachers, by Control of School

The number of classroom teachers in public elementary and secondary schools increased from 2.14 million in 1983 to about 2.65 million in 1996, an increase of 24 percent from 1983 (figure 47). Under the middle alternative, the number of public school teachers is projected to increase to 3.02 million by the year 2008, resulting in an increase of 14 percent from 1996. This increase will represent an average annual growth rate of 1.1 percent. During the projection period, the growth rate in the 1996–2002 period will be 1.3 percent, while the growth rate in the 2002–2008 period will be 0.9 percent (figure 48). Under the low alternative, the number of public school teachers is projected to increase to 2.94 million by the year 2008, increasing at an average annual growth rate of 0.9 percent. Under the high alternative, public school teachers are projected to increase to 3.08 million by the year 2008, increasing at an average annual growth rate of 1.3 percent.

The number of classroom teachers in private elementary and secondary schools was an estimated 387,000 in 1996. Under the middle alternative, this number is projected to increase to 438,000 by the year 2008, an increase of 13 percent from 1996. This increase will represent an average annual growth rate of 1.0 percent. During the projection period, the growth rate in the 1996–2002 period will be 1.3 percent, while the growth rate in the 2002–2008 period will be 0.8 percent. Under the low alternative, the number of private school teachers is projected to increase to 426,000 by the year 2008, increasing at an average annual growth rate of 0.8 percent. Under the high alternative, private school teachers are projected to increase to 447,000 by the year 2008, increasing at an average annual growth rate of 1.2 percent.

Pupil-Teacher Ratios

A broad relationship between the number of pupils and teachers can be described by the pupil-teacher ratio. The pupil-teacher ratios were computed based on elementary and secondary enrollment by organizational level and the number of classroom teachers by organizational level.

The pupil-teacher ratio in elementary schools decreased from 19.6 in 1983 to 18.4 in 1989. Then, the pupil-teacher ratio increased to 18.6 in 1996 (table 33 and figure 49). Under the middle alternative, this ratio is projected to decline to 17.0 by the year 2008. Under the low and high alternatives, the pupil-teacher ratio in elementary schools is expected to range between 16.6 and 17.5 by the year 2008.

For public elementary schools, under the middle alternative, the pupil-teacher ratio is projected to decrease from 18.9 in 1996 to 17.3 by the year 2008 (figure 50). Under the low and high alternatives, the pupil-teacher ratio in public elementary schools is projected to range between 17.0 and 17.8 by the year 2008. For private elementary schools, under the middle alternative, the pupil-teacher ratio is projected to decrease from 16.4 in 1996 to 15.1 by the year 2008. Under the low and high alternatives, the pupil-teacher ratio in private elementary schools is expected to range between 14.8 and 15.5 by the year 2008.

For secondary schools, the pupil-teacher ratio decreased from 16.2 in 1983 to 14.3 in 1990. Next, it increased to about 14.8 in 1992. Then, it declined to 14.5 in 1996. Under the middle alternative, this ratio is projected to decrease to 13.8 by 2008. Under the low and high alternatives, the pupil-teacher ratio in secondary schools is projected to range between 13.6 and 14.1 by the year 2008.

For public secondary schools, under the middle alternative, the pupil-teacher ratio is projected to decrease from 14.8 in 1996 to 14.1 by 2008. Under the low and high alternatives, the pupil-teacher ratio in public secondary schools is expected to range between 13.8 and 14.4 by the year 2008. For private secondary schools, under the middle alternative, the pupil-teacher ratio is projected to decrease from 11.5 in 1996 to 11.1 by the year 2008. Under the low and high alternatives, the pupil-teacher ratio in private secondary schools is projected to range between 10.9 and 11.3 by the year 2008.

Although private school classroom teachers represented 13 percent of total classroom teachers in 1996, private school enrollment was 11 percent of total enrollment. This indicates that private schools have more teachers for a given number of students than do public schools; that is, private school pupil-teacher ratios are smaller than public school pupil-teacher ratios.

Figure 43
Elementary and secondary classroom teachers, with alternative projections: Fall 1983 to fall 2008

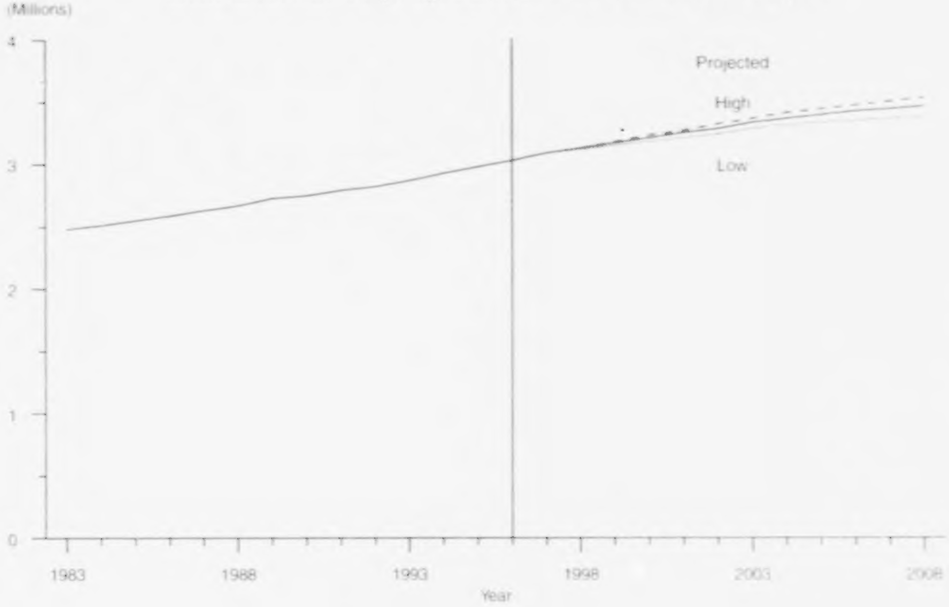


Figure 44
Average annual growth rates for classroom teachers

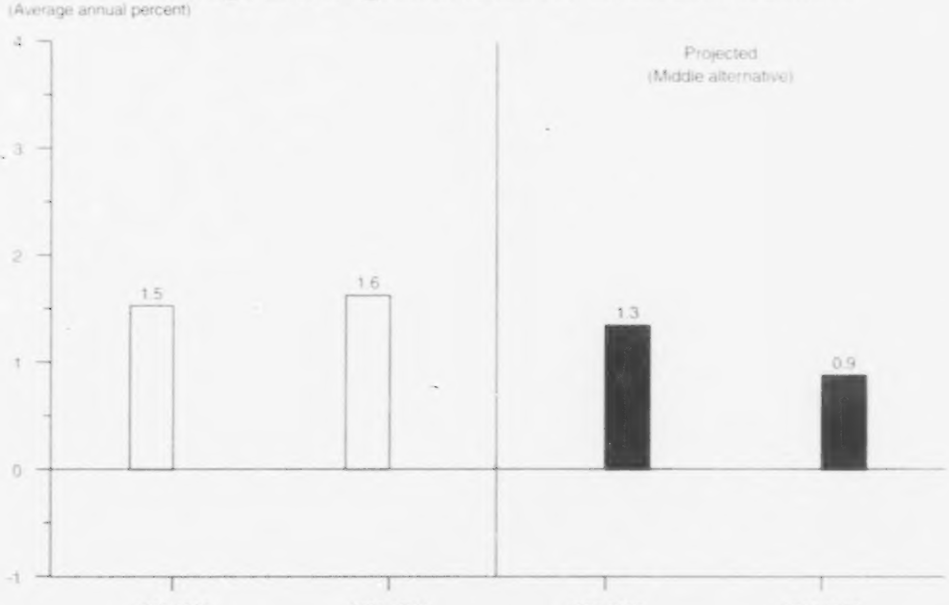


Figure 45
Elementary and secondary classroom teachers, by organizational level, with middle alternative projections: Fall 1983 to fall 2008

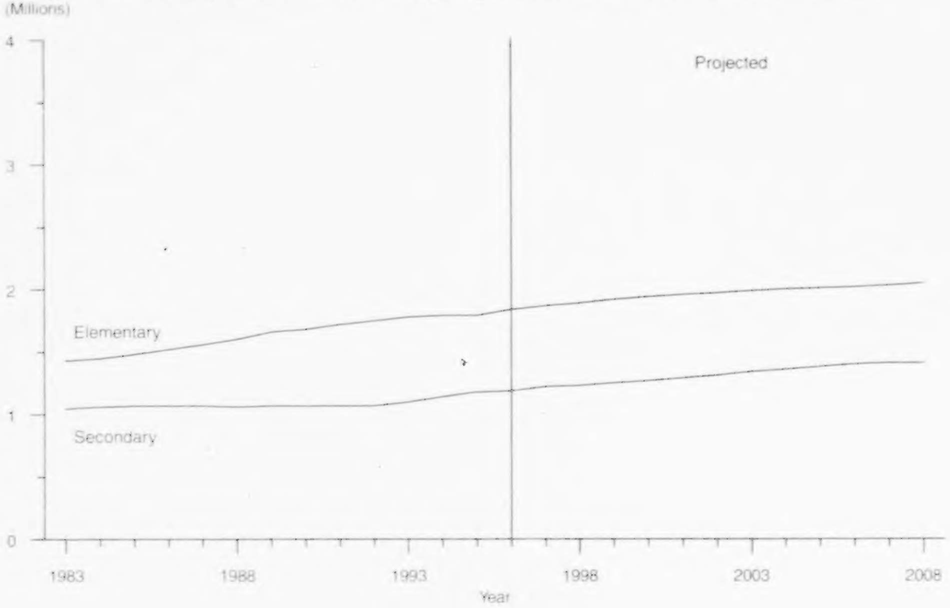


Figure 46
Average annual rates of change for classroom teachers, by organizational level

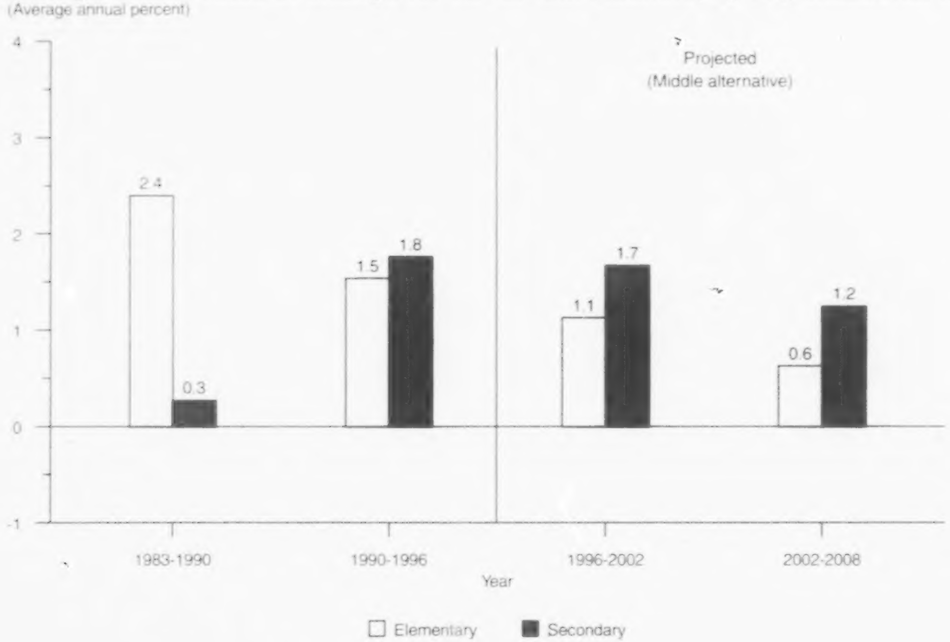


Figure 47

Elementary and secondary classroom teachers, by control of institution, with middle alternative projections: Fall 1983 to fall 2008

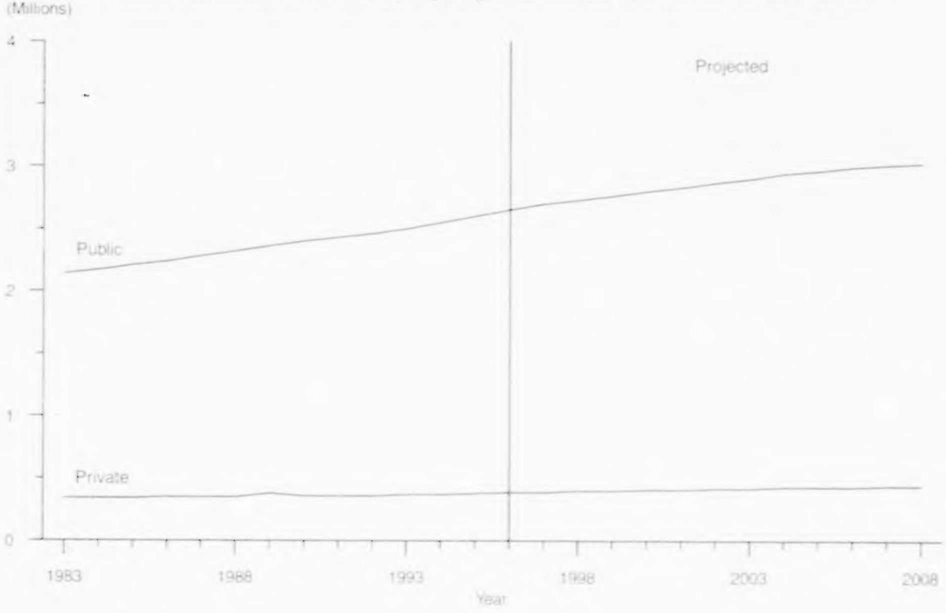


Figure 48

Average annual growth rates for classroom teachers, by control of institution

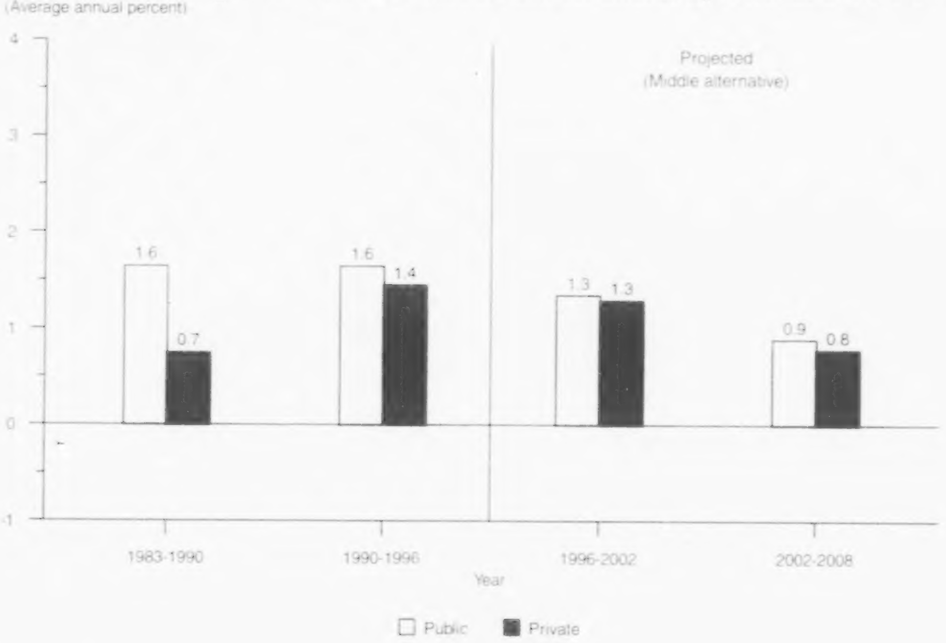


Figure 49
Pupil-teacher ratios, by organizational level, with middle alternative projections: Fall 1983 to fall 2008

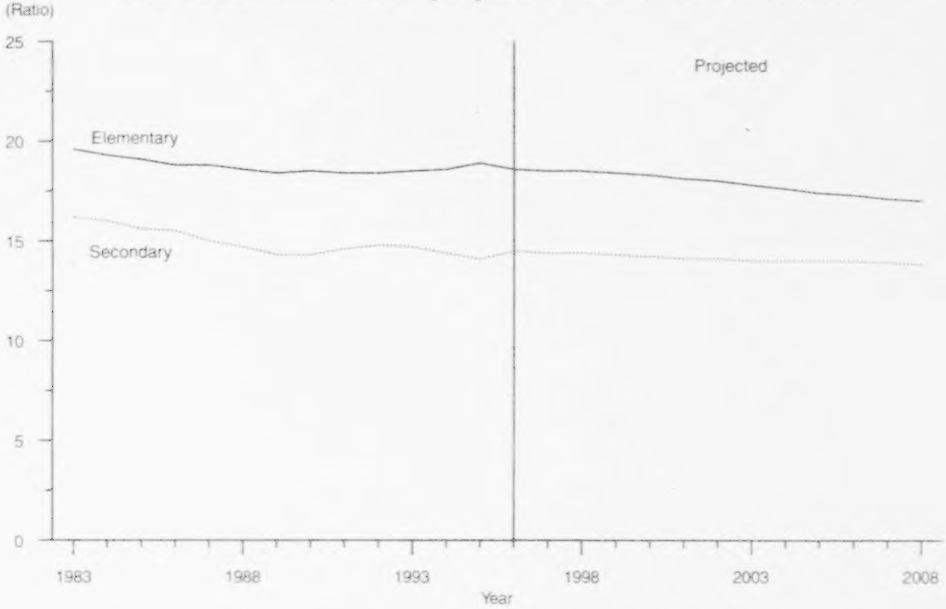


Figure 50
Pupil-teacher ratios, by organizational level and control, with middle alternative projections: Fall 1983 to fall 2008

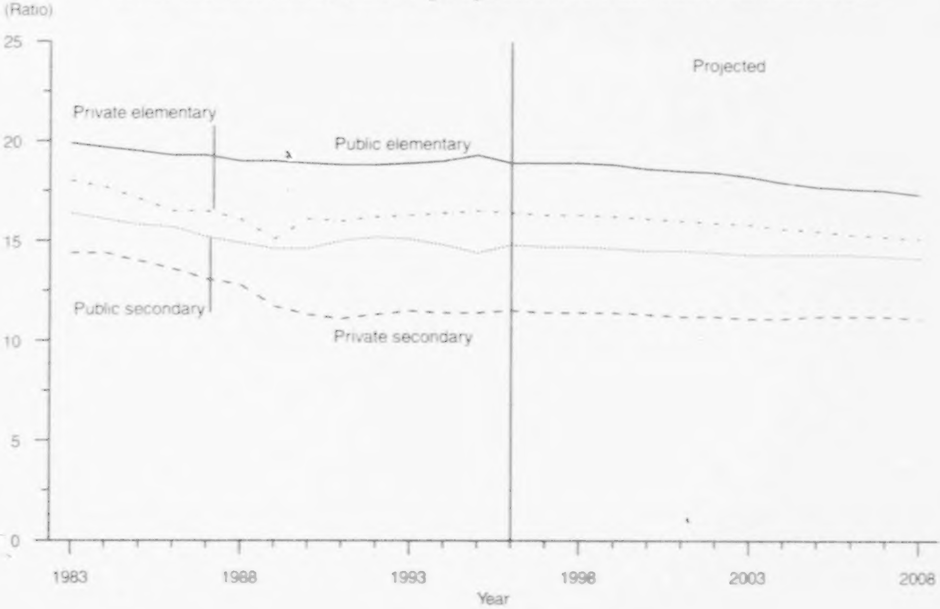


Table 32.—Classroom teachers in elementary and secondary schools, by control of institution and organizational level, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

(In thousands)

Year	Total			Public			Private		
	K–12	Elementary	Secondary	K–12	Elementary	Secondary	K–12	Elementary	Secondary
1983	2,476	1,426	1,050	2,139	1,186	953	337	240	97
1984	2,508	1,451	1,057	2,168	1,208	960	[1]340	[1]243	[1]97
1985	2,549	1,483	1,066	2,206	1,237	969	343	246	97
1986	2,592	1,521	1,071	2,244	1,271	973	[1]348	[1]250	[1]98
1987	2,631	1,563	1,068	2,279	1,306	973	[2]352	[2]257	[2]95
1988	2,668	1,604	1,064	2,323	1,353	970	[2]345	[2]251	[2]94
1989	2,734	1,662	1,072	2,357	1,387	970	[2]377	[2]275	[2]102
1990	2,753	1,683	1,070	2,398	1,429	969	[2]355	[2]254	[2]101
1991	2,787	1,722	1,065	2,432	1,468	964	[2]355	[2]254	[2]101
1992	2,822	1,752	1,070	2,459	1,492	967	[2]363	[2]260	[2]103
1993	2,870	1,775	1,095	2,504	1,513	991	[1]366	[1]262	[1]104
1994	2,926	1,791	1,135	2,552	1,525	1,027	[3]374	[3]266	[3]108
1995	2,978	1,794	1,184	2,598	1,525	1,073	[3]380	[3]269	[3]111
1996[3]	3,032	1,844	1,188	2,645	1,570	1,075	387	274	113
				Middle alternative projections					
1997	3,091	1,874	1,217	2,697	1,596	1,101	394	278	116
1998	3,126	1,894	1,233	2,728	1,612	1,116	399	281	117
1999	3,167	1,916	1,251	2,764	1,632	1,132	404	285	119
2000	3,211	1,939	1,272	2,802	1,651	1,151	409	288	121
2001	3,245	1,957	1,288	2,832	1,666	1,166	413	291	123
2002	3,284	1,972	1,312	2,866	1,679	1,187	418	293	125
2003	3,325	1,989	1,336	2,903	1,693	1,209	423	295	127
2004	3,362	2,001	1,361	2,935	1,704	1,231	427	297	129
2005	3,394	2,012	1,382	2,963	1,713	1,250	430	299	131
2006	3,418	2,021	1,397	2,985	1,721	1,264	433	300	133
2007	3,441	2,033	1,408	3,005	1,731	1,274	436	302	134
2008	3,460	2,047	1,413	3,022	1,743	1,279	438	304	134
				Low alternative projections					
1997	3,091	1,874	1,217	2,697	1,596	1,101	394	278	116
1998	3,119	1,888	1,230	2,721	1,608	1,113	398	280	117
1999	3,147	1,903	1,243	2,746	1,621	1,125	401	283	118
2000	3,183	1,921	1,262	2,778	1,636	1,142	405	285	120
2001	3,211	1,934	1,276	2,802	1,647	1,155	409	287	121
2002	3,243	1,945	1,298	2,831	1,656	1,175	412	289	124
2003	3,277	1,957	1,319	2,860	1,667	1,194	416	291	126
2004	3,305	1,965	1,340	2,885	1,673	1,212	419	292	127
2005	3,327	1,970	1,357	2,905	1,678	1,228	422	293	129
2006	3,343	1,974	1,369	2,920	1,681	1,239	423	293	130
2007	3,357	1,980	1,377	2,932	1,686	1,246	425	294	131
2008	3,366	1,988	1,378	2,940	1,693	1,247	426	295	131
				High alternative projections					
1997	3,091	1,874	1,217	2,697	1,596	1,101	394	278	116
1998	3,130	1,896	1,234	2,731	1,615	1,117	399	282	117
1999	3,181	1,925	1,256	2,776	1,639	1,136	405	286	120
2000	3,231	1,952	1,279	2,820	1,662	1,157	412	290	122
2001	3,272	1,974	1,298	2,855	1,681	1,174	417	293	123
2002	3,317	1,994	1,323	2,895	1,697	1,197	422	296	126
2003	3,363	2,014	1,349	2,935	1,715	1,221	427	299	128
2004	3,405	2,029	1,375	2,972	1,728	1,245	432	301	131
2005	3,442	2,043	1,399	3,005	1,740	1,266	437	303	133
2006	3,473	2,056	1,417	3,033	1,751	1,282	440	305	135
2007	3,503	2,073	1,431	3,059	1,765	1,294	444	308	136
2008	3,528	2,090	1,438	3,081	1,780	1,301	447	310	137

[1] Estimated on the basis of past data.

[2] Estimate is from the survey on *Early Estimates*.

[3] Projected.

NOTE: The numbers of elementary and secondary teachers reported separately by the National Education Association were prorated to the NCES totals for each year. Historical numbers may differ from those in previous editions. Projections are based on data through 1994. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; "Private Elementary and Secondary Education, 1983: Enrollment, Teachers, and Schools," *NCES Bulletin*, December 1984; 1985 Private School Survey; "Key Statistics for Private Elementary and Secondary Education: School Year 1988–89," *Early Estimates*; "Key Statistics for Private Elementary and Secondary Education: School Year 1990–91," *Early Estimates*; "Public and Private Elementary and Secondary Education Statistics: School Year 1991–92," *Early Estimates*; and "Public and Private Elementary and Secondary Education Statistics: School Year 1992–93," *Early Estimates*. (This table was prepared October 1997.)

Table 33.—Pupil-teacher ratios in elementary and secondary schools, by control of institution and organizational level, with alternative projections: 50 States and D.C., fall 1983 to fall 2008

Year	Total		Public		Private	
	Elementary	Secondary	Elementary	Secondary	Elementary	Secondary
1983	19.6	16.2	19.9	16.4	18.0	14.4
1984	19.3	16.0	19.7	16.1	[1]17.7	[1]14.4
1985	19.1	15.6	19.5	15.8	17.1	14.0
1986	18.8	15.5	19.3	15.7	[1]16.5	[1]13.6
1987	18.8	15.0	19.3	15.2	[2]16.5	[2]13.1
1988	18.6	14.7	19.0	14.9	[2]16.1	[2]12.8
1989	18.4	14.3	19.0	14.6	[2]15.1	[2]11.7
1990	18.5	14.3	18.9	14.6	[2]16.1	[2]11.3
1991	18.4	14.6	18.8	15.0	[2]16.0	[2]11.1
1992	18.4	14.8	18.8	15.2	[2]16.2	[2]11.3
1993	18.5	14.7	18.9	15.1	[3]16.3	[3]11.5
1994	18.6	14.4	19.0	14.8	[3]16.4	[3]11.4
1995	18.9	14.1	19.3	14.4	[3]16.5	[3]11.4
1996[3]	18.6	14.5	18.9	14.8	16.4	11.5
Middle alternative projections						
1997	18.5	14.4	18.9	14.7	16.3	11.4
1998	18.5	14.4	18.9	14.7	16.3	11.4
1999	18.4	14.3	18.8	14.6	16.2	11.4
2000	18.3	14.2	18.6	14.5	16.1	11.3
2001	18.1	14.1	18.5	14.5	16.0	11.2
2002	18.0	14.1	18.4	14.4	15.9	11.2
2003	17.8	14.0	18.2	14.3	15.8	11.1
2004	17.6	14.0	17.9	14.3	15.6	11.1
2005	17.4	14.0	17.7	14.3	15.5	11.2
2006	17.3	14.0	17.6	14.3	15.3	11.2
2007	17.1	13.9	17.5	14.2	15.2	11.2
2008	17.0	13.8	17.3	14.1	15.1	11.1
Low alternative projections (Based on high alternative projections of teachers)						
1997	18.5	14.4	18.9	14.7	16.3	11.4
1998	18.5	14.4	18.8	14.7	16.3	11.4
1999	18.3	14.2	18.7	14.5	16.1	11.3
2000	18.1	14.1	18.5	14.4	16.0	11.2
2001	18.0	14.0	18.4	14.3	15.9	11.1
2002	17.8	14.0	18.2	14.3	15.8	11.1
2003	17.6	13.9	17.9	14.2	15.6	11.0
2004	17.4	13.9	17.7	14.2	15.4	11.0
2005	17.1	13.9	17.5	14.2	15.2	11.1
2006	17.0	13.8	17.3	14.1	15.1	11.1
2007	16.8	13.7	17.1	14.0	14.9	11.0
2008	16.6	13.6	17.0	13.8	14.8	10.9
High alternative projections (Based on low alternative projections of teachers)						
1997	18.5	14.4	18.9	14.7	16.3	11.4
1998	18.5	14.4	18.9	14.7	16.4	11.4
1999	18.5	14.4	18.9	14.7	16.3	11.4
2000	18.4	14.3	18.8	14.6	16.3	11.4
2001	18.4	14.3	18.7	14.6	16.2	11.3
2002	18.2	14.2	18.6	14.6	16.2	11.3
2003	18.1	14.2	18.4	14.5	16.1	11.2
2004	17.9	14.3	18.3	14.6	15.9	11.3
2005	17.8	14.3	18.1	14.6	15.8	11.4
2006	17.7	14.3	18.0	14.6	15.7	11.5
2007	17.6	14.3	17.9	14.6	15.6	11.4
2008	17.5	14.1	17.8	14.4	15.5	11.3

[1] Estimated on the basis of past data.

[2] Estimate is from the survey on *Early Estimates*.

[3] Projected.

NOTE: The pupil-teacher ratios were derived from tables 2 and 32. Historical numbers may differ from those in previous editions. Projections are based on data through 1994.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Schools*; Common Core of Data surveys; "Private Elementary and Secondary Education, 1983: Enrollment, Teachers, and Schools," *NCES Bulletin*, December 1984; 1985 Private School Survey; "Key Statistics for Private Elementary and Secondary Education: School Year 1988–89," *Early Estimates*; "Key Statistics for Private Elementary and Secondary Education: School Year 1990–91," *Early Estimates*; "Public and Private Elementary and Secondary Education Statistics: School Year 1991–92," *Early Estimates*; and "Public and Private Elementary and Secondary Education Statistics: School Year 1992–93," *Early*

Chapter 6

Expenditures of Public Elementary and Secondary Schools

Current expenditures are projected to increase by 36 percent in constant dollars between school years 1994–95 and 2007–08 in the middle set of projections presented in this chapter. Average annual teacher salaries in public elementary and secondary schools in constant dollars are projected to increase 3 percent during that period. (Note that all percent changes presented in this chapter were calculated using unrounded numbers.) These projections are based on assumptions concerning economic growth and assistance by state governments to local governments which are discussed in appendix A5. Other sets of projections, based on alternative economic scenarios, are also discussed. No projections for private schools are presented as there are no regular data collections for private school expenditures.

Current Expenditures

Past Trends

Current expenditures increased from $170.5 billion in 1982–83 to $250.5 billion in 1994–95 using constant 1995–96 dollars and the Consumer Price Index (table 34 and figure 51). (The 1994–95 school year is the last year for which current expenditures are available.) This was an increase of 47 percent. Current expenditures are estimated to increase to $269.7 billion by 1996–97, an increase of 58 percent since 1982–83. From 1982–83 to 1994–95, current expenditures per pupil in average daily attendance rose 32 percent to $6,151 (table 34 and figures 52 and 53). Current expenditures per pupil in average daily attendance increased an estimated 37 percent from 1982–83 to 1996–97. Current expenditures per pupil in fall enrollment (table 35) also increased 32 percent from 1982–83 to 1994–95.

Historically, education expenditures have followed a path similar to general economic trends. For much of the period since 1982–83, the economy has been rising. Current expenditures have also been rising during that period. (See figure 54 for a comparison of the growth rates of current expenditures per pupil and one major indicator of the state of the economy, disposable income per capita, and table B6 for the values of disposable income per capita.)

The amount that local governments spend on education is also historically associated with the amount of state education aid to local governments (table B7). There was a rapid rise in state education aid to local governments during the period from 1982–83 to 1994–95. (See figure 55 for a comparison of the growth rates of current expenditures per pupil and revenue receipts from state sources per capita.)

Current expenditures, which had already been increasing, have increased each year since 1982–83. The percent increase has not been constant over that time, however. Most of the largest of the percent increases occurred from 1984–85 to 1989–90. That was the period when disposable income per capita and state education aid per capita were also increasing most rapidly. Also during that period, enrollments, which had been falling since the early 1970s, entered a period of steady increases. Since 1989–90, current expenditures have not been increasing as rapidly. Disposable income per capita and state education aid per capita have been increasing at lower rates than in the mid-1980s as well.

The percentage of total disposable income spent on public elementary and secondary school current expenditures has increased slightly from 1982–83 (4.5 percent) to 1994–95 (4.7 percent) (tables 34, B5 and B6). This percentage was not stable during this period, however. It fell to 4.3 percent in 1983–84 before beginning to rise again. The year 1983–84 is notable because enrollment as measured by average daily attendance reached its lowest level since 1962–63 and has been increasing annually since then.

Current expenditures per pupil in average daily attendance as a percentage of disposable income per capita rose from 28.2 percent in 1982–83 to 30.3 percent in 1994–95.

Alternative Projections

Three sets of projections are presented for current expenditures in this chapter. Each set of projections is based on alternative assumptions concerning the economy. These assumptions together with the methodology used to produce the current expenditure projections are discussed in appendix A5.

The projections in this chapter are presented in both constant 1995–96 dollars and in current dollars. The projections were developed in constant dollars and then placed in current dollars using projections for the Consumer Price Index (CPI) (table B8). Three alternative sets of projections for the CPI were used, one for use with the middle alternative projections, one for use with the low alternative projections, and one for use with the high alternative projections. As the set of projections for the CPI developed for use with the low alternative projections is rising at the most rapid rate and that developed for use with the high alternative projections is rising at the slowest rate, it is frequently the case that the current dollar projections from the low alternative set of projections are higher than those from the other two alternative sets of projections.

In the middle alternative projections, current expenditures in constant 1995–96 dollars are projected to increase steadily throughout the forecast period, reaching $341.5 billion in 2007–08. This is an increase of 36 percent over the 1994–95 level, and 27 percent over the estimated level for 1996–97. Current expenditures are projected to increase most rapidly during the period from 1996–97 to 1999–2000. This is also the period during which enrollments are expected to increase most rapidly.

Current expenditures per pupil in average daily attendance are projected to increase by 24 percent to $7,622 from 1994–95 to 2007–08 (table 34 and figure 52).

In the middle alternative projection, total current expenditures as a percentage of total disposable income are projected to remain at 4.7 percent from 1994–95 to 2007–08. Current expenditures per pupil in average daily attendance as a percentage of disposable income per capita are projected to increase slightly, from 30.3 percent to 30.5 percent during the same period.

In the low alternative projections, both current expenditures and current expenditures per pupil are projected to increase more slowly than in the middle set of projections. Current expenditures are projected to increase by 31 percent from 1994–95 to 2007–08, reaching $328.0 billion at the end of the forecast period. Current expenditures per pupil in average daily attendance are projected to reach $7,321 by 2007–08, an increase of 19 percent since 1994–95.

In the high alternative projections, current expenditures are projected to increase by approximately 41 percent over the 1994–95 level to $353.5 billion in 2007–08. Current expenditures per pupil in average daily attendance are projected to increase by 28 percent to $7,888 since 1994–95.

Teacher Salaries

Past Trends

The period from 1982–83 to 1996–97 has been dominated by two different patterns for teacher salaries in constant dollars (table 36 and figures 56 and 57).

Teacher salaries had reached the bottom of a period of steady declines in 1980–81, and then entered a period of steady and relatively rapid growth. From 1982–83 to 1989–90, teacher salaries increased 17.1 percent, from $32,587 to $38,172. During this period, current expenditures and the revenues of state governments were increasing rapidly. (See figure 59 for a comparison of the growth rates for teacher salaries and current expenditures per pupil.) It was during that period when enrollment, which had also been in a period of steady decline, began increasing again.

From 1989–90 to 1996–97, teacher salaries declined 2 percent. (Unlike current expenditures, there are values for teacher salaries for 1995–96 and 1996–97.) During much of that period, the economy, current expenditures, and revenues of state and local governments had not been increasing as rapidly as earlier.

Alternative Projections

As with current expenditures, three sets of projections are presented for teacher salaries. The methodology and the assumptions used to produce these projections are discussed in appendix A5.

In the middle alternative projections, the average teacher salary in constant 1995–96 dollars is projected to reach $38,522 in 2007–08 (table 36 and figure 56). This is a 3-percent increase from the level estimated for 1996–97.

In the low alternative projections, teacher salaries are also projected to rise only slightly throughout the projection period. The average salary is projected to rise to $37,823 in 2007–08, an increase of about 1 percent from 1996–97. (See figure 57 for a comparison of the growth rates for the alternative sets of projections.)

In the high alternative projections, the average teacher salary is projected to reach $39,127 in 2007–08, an increase of about 5 percent.

Figure 51

Current expenditures of public schools (in constant 1995-96 dollars), with alternative projections: 1982-83 to 2007-08

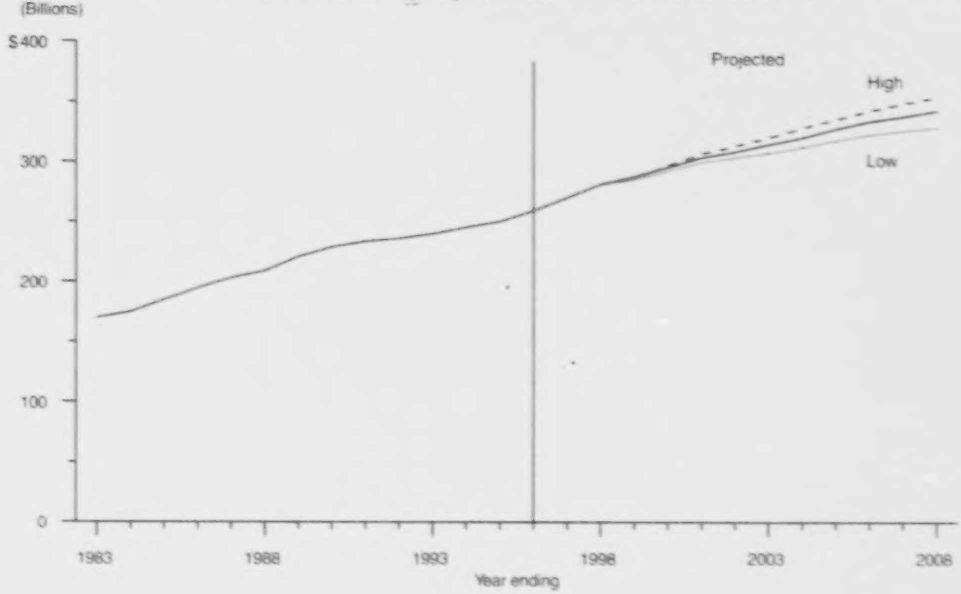


Figure 52

Current expenditures per pupil in average daily attendance of public schools (in constant 1995-96 dollars), with alternative projections: 1982-83 to 2007-08

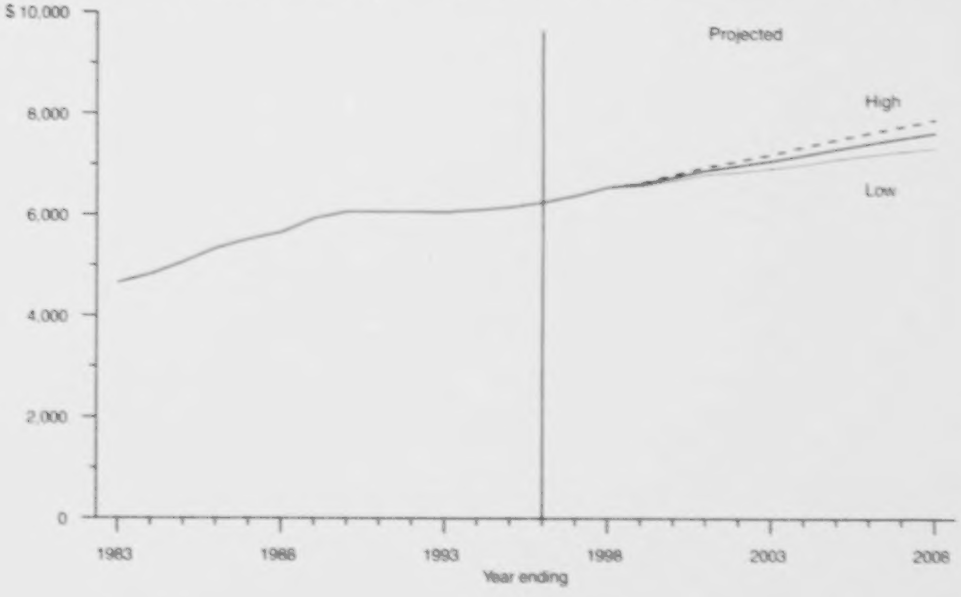


Figure 53
Annual percentage change in current expenditures per pupil in average daily attendance of public schools (in constant dollars), with alternative projections: 1982-83 to 2007-08

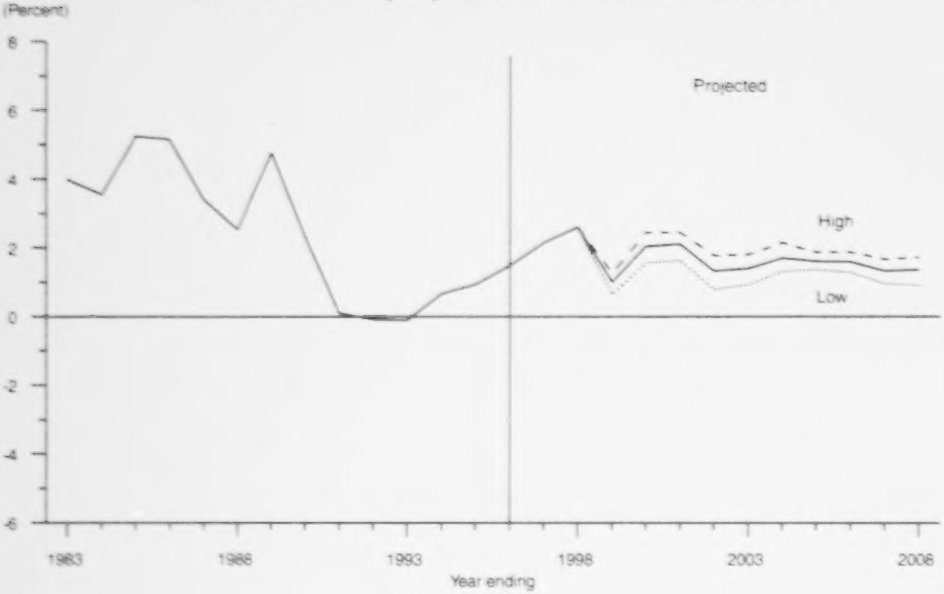


Figure 54
Annual percentage change in current expenditures per pupil in average daily attendance of public schools and disposable income per capita (both in constant dollars), with middle alternative projections: 1982-83 to 2007-08

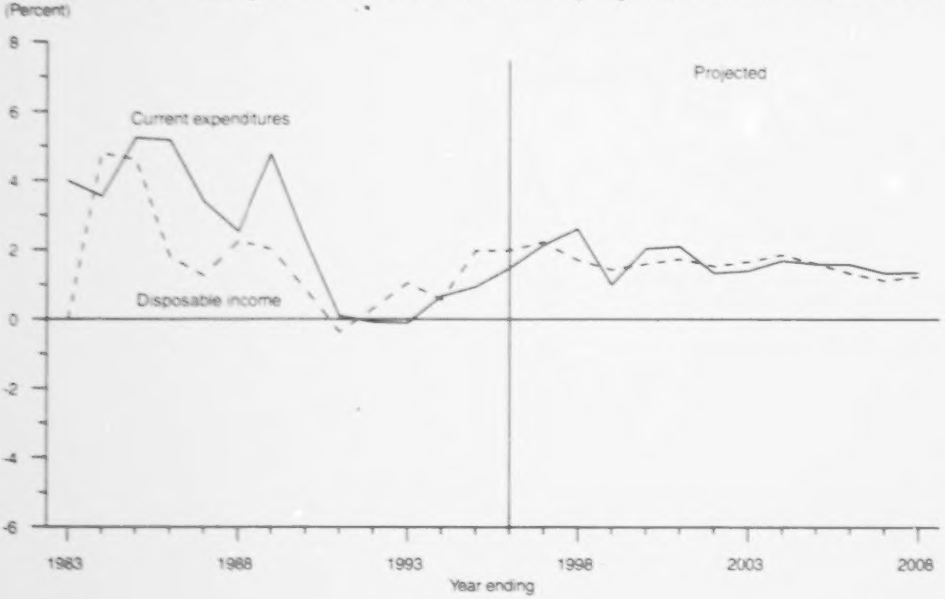


Figure 55

Annual percentage change in current expenditures per pupil in ADA of public schools and education revenue receipts from state sources per capita (both in constant dollars), with middle alternative projections: 1982-83 to 2007-08

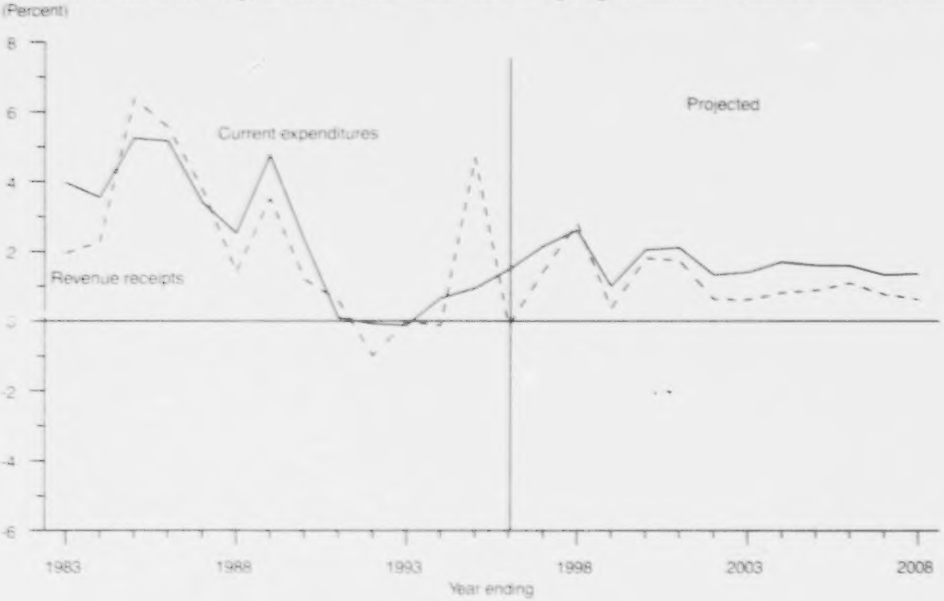


Figure 56

Estimated average annual salaries of teachers in public schools (in constant 1995-96 dollars), with alternative projections: 1982-83 to 2007-08

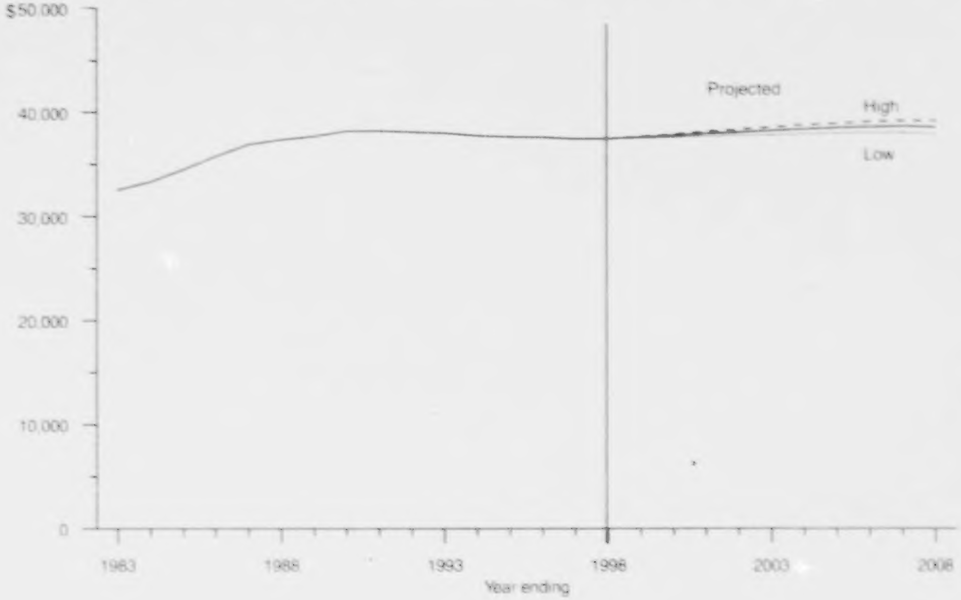


Figure 57

Annual percentage change in estimated average annual salaries of teachers in public schools (in constant dollars), with alternative projections: 1982-83 to 2007-08

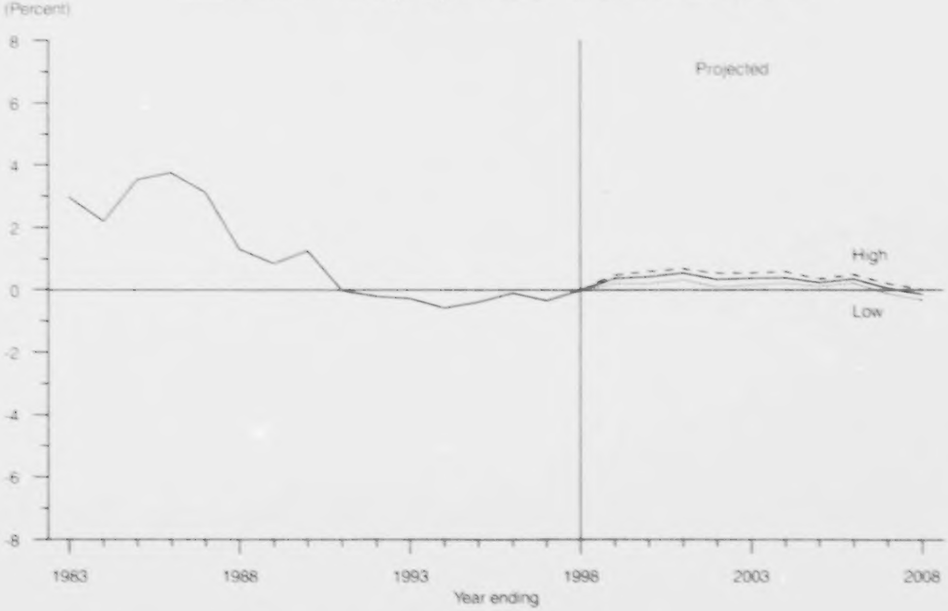


Figure 58

Annual percentage change in estimated average annual salaries of teachers teachers in public schools (in constant dollars) and average daily attendance, with middle alternative projections: 1982-83 to 2007-08

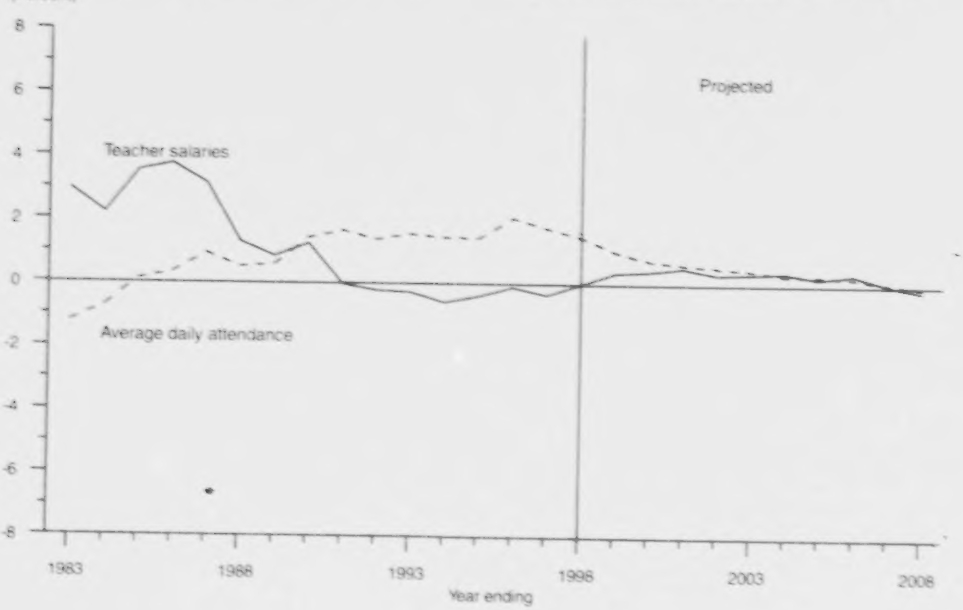
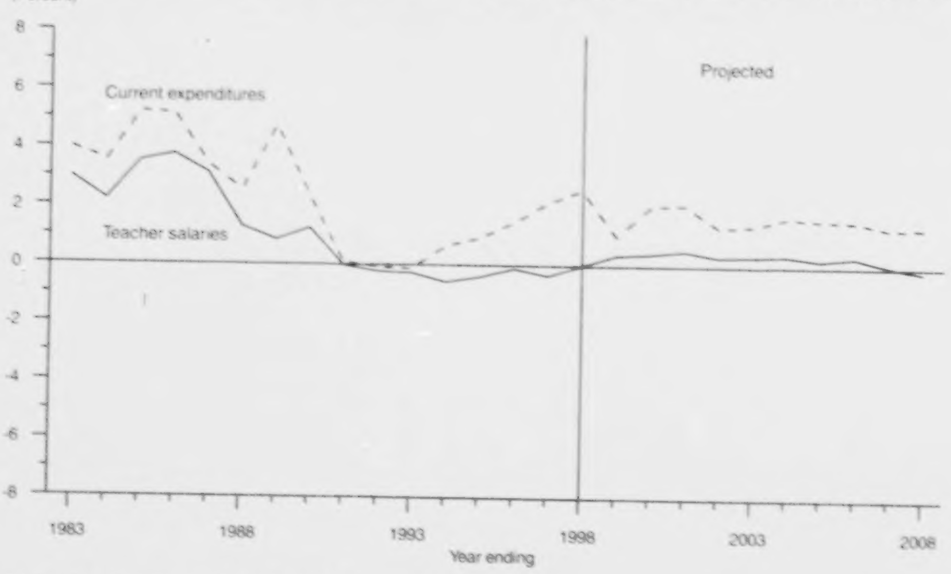


Figure 59

Annual percentage change in estimated average annual salaries of teachers and current expenditures per pupil in ADA of public schools (both in constant dollars), with middle alternative projections: 1982-83 to 2007-08



NOTE: Data for current expenditures for 1995-96 and 1996-97 are estimated.

Table 34.—Current expenditures and current expenditures per pupil in average daily attendance (ADA) in public elementary and secondary schools, with alternative projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	ADA (in thousands)	Current expenditures			
		Constant 1995–96 dollars [1]		Current dollars [2]	
		Total (in billions)	Per pupil in ADA	Total (in billions)	Per pupil in ADA
1983	36,636	$170.5	$4,653	$108.3	$2,955
1984	36,363	175.2	4,819	115.4	3,173
1985	36,404	184.6	5,071	126.3	3,470
1986	36,523	194.8	5,333	137.2	3,756
1987	36,864	203.3	5,514	146.4	3,970
1988	37,051	209.5	5,654	157.1	4,240
1989	37,268	220.7	5,923	173.1	4,645
1990	37,799	229.1	6,060	188.2	4,980
1991	38,427	233.1	6,065	202.0	5,258
1992	38,961	236.1	6,061	211.2	5,421
1993	39,570	239.5	6,053	220.9	5,584
1994	40,146	244.6	6,093	231.5	5,767
1995	40,721	250.5	6,151	243.8	5,988
1996 [3]	41,563	259.4	6,241	259.4	6,241
		Middle alternative projections			
1997	42,296	269.7	6,376	277.4	6,560
1998	42,924	280.8	6,541	296.1	6,897
1999	43,372	286.5	6,607	311.9	7,192
2000	43,698	294.6	6,742	331.4	7,583
2001	43,973	302.7	6,883	351.5	7,993
2002	44,213	308.4	6,975	369.4	8,354
2003	44,422	314.2	7,072	—	—
2004	44,562	320.5	7,191	—	—
2005	44,697	326.6	7,306	—	—
2006	44,803	332.5	7,422	—	—
2007	44,834	337.2	7,520	—	—
2008	44,810	341.5	7,622	—	—
		Low alternative projections			
1997	42,296	269.7	6,376	277.4	6,560
1998	42,924	280.8	6,541	296.1	6,897
1999	43,372	285.5	6,582	311.4	7,179
2000	43,698	292.1	6,685	330.4	7,562
2001	43,973	298.8	6,794	349.9	7,957
2002	44,213	302.8	6,848	366.7	8,295
2003	44,422	307.0	6,911	—	—
2004	44,562	312.0	7,001	—	—
2005	44,697	317.2	7,096	—	—
2006	44,803	322.0	7,186	—	—
2007	44,834	325.3	7,255	—	—
2008	44,810	328.0	7,321	—	—
		High alternative projections			
1997	42,296	269.7	6,376	277.4	6,560
1998	42,924	280.8	6,541	296.1	6,897
1999	43,372	287.2	6,622	312.0	7,194
2000	43,698	296.4	6,783	331.4	7,584
2001	43,973	305.5	6,948	351.6	7,995
2002	44,213	312.7	7,072	369.9	8,367
2003	44,422	319.8	7,199	—	—
2004	44,562	327.7	7,353	—	—
2005	44,697	334.8	7,490	—	—
2006	44,803	341.8	7,629	—	—
2007	44,834	347.7	7,756	—	—
2008	44,810	353.5	7,888	—	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2002 due to the uncertain behavior of inflation over the long term.

[3] Current expenditures and average daily attendance are projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of State School Systems*; Common Core of Data survey; Early Estimates survey; and National Education Association, annual *Estimates of School Statistics*. (Latest edition 1996–97. Copyright 1997 by the National Education Association. All rights reserved.) (This table was prepared October 1997.)

Table 35.—Current expenditures and current expenditures per pupil in fall enrollment in public elementary and secondary schools, with alternative projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Fall enrollment[1] (in thousands)	Current expenditures			
		Constant 1995–96 dollars[2]		Current dollars[3]	
		Total (in billions)	Per pupil in fall enrollment	Total (in billions)	Per pupil in fall enrollment
1983	39,565	$170.5	$4,309	$108.3	$2,736
1984	39,252	175.2	4,464	115.4	2,940
1985	39,208	184.6	4,708	126.3	3,222
1986	39,422	194.8	4,940	137.2	3,479
1987	39,753	203.3	5,114	146.4	3,682
1988	40,008	209.5	5,236	157.1	3,927
1989	40,189	220.7	5,492	173.1	4,307
1990	40,543	229.1	5,650	188.2	4,643
1991	41,217	233.1	5,655	202.0	4,902
1992	42,047	236.1	5,616	211.2	5,023
1993	42,823	239.5	5,593	220.9	5,160
1994	43,465	244.6	5,628	231.5	5,327
1995	44,111	250.5	5,678	243.8	5,528
1996[4]	44,840	259.4	5,785	259.4	5,785
		Middle alternative projections			
1997	45,630	269.7	5,910	277.4	6,080
1998	46,308	280.8	6,063	296.1	6,393
1999	46,792	286.5	6,124	311.9	6,667
2000	47,143	294.6	6,249	331.4	7,029
2001	47,439	302.7	6,380	351.5	7,409
2002	47,698	308.4	6,465	369.4	7,744
2003	47,924	314.2	6,555	—	—
2004	48,075	320.5	6,666	—	—
2005	48,221	326.6	6,773	—	—
2006	48,335	332.5	6,879	—	—
2007	48,368	337.2	6,971	—	—
2008	48,342	341.5	7,065	—	—
		Low alternative projections			
1997	45,630	269.7	5,910	277.4	6,080
1998	46,308	280.8	6,063	296.1	6,393
1999	46,792	285.5	6,101	311.4	6,654
2000	47,143	292.1	6,197	330.4	7,009
2001	47,439	298.8	6,298	349.9	7,375
2002	47,698	302.8	6,347	366.7	7,689
2003	47,924	307.0	6,406	—	—
2004	48,075	312.0	6,490	—	—
2005	48,221	317.2	6,577	—	—
2006	48,335	322.0	6,661	—	—
2007	48,368	325.3	6,725	—	—
2008	48,342	328.0	6,786	—	—
		High alternative projections			
1997	45,630	269.7	5,910	277.4	6,080
1998	46,308	280.8	6,063	296.1	6,393
1999	46,792	287.2	6,139	312.0	6,669
2000	47,143	296.4	6,287	331.4	7,030
2001	47,439	305.5	6,441	351.6	7,411
2002	47,698	312.7	6,555	369.9	7,756
2003	47,924	319.8	6,673	—	—
2004	48,075	327.7	6,816	—	—
2005	48,221	334.8	6,943	—	—
2006	48,335	341.8	7,072	—	—
2007	48,368	347.7	7,189	—	—
2008	48,342	353.5	7,312	—	—

[1] Each enrollment number is for the fall of the school year ending in the school year shown in column 1. Hence, the enrollment number listed for 1983 is for fall 1982.

[2] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[3] Projections in current dollars are not shown after 2002 due to the uncertain behavior of inflation over the long term.

[4] Current expenditures are projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of State School Systems*; *Statistics of Public Elementary and Secondary Schools*; "Selected Public and Private Elementary and Secondary Education Statistics," NCES Bulletin, October 23, 1979; Common Core of Data survey; Early Estimates survey; and National Education Association, annual *Estimates of School Statistics*. (Latest edition 1996–97. Copyright 1997 by the National Education Association. All rights reserved.) (This table was prepared October 1997.)

Table 36.—Estimated average annual salaries of classroom teachers in public elementary and secondary schools, with alternative projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Constant 1995–96 dollars[1]	Current dollars[2]
1983	$32,587	$20,695
1984	33,307	21,935
1985	34,484	23,600
1986	35,780	25,199
1987	36,901	26,569
1988	37,382	28,034
1989	37,699	29,564
1990	38,172	31,367
1991	38,166	33,084
1992	38,080	34,063
1993	37,975	35,029
1994	37,752	35,733
1995	37,602	36,609
1996	37,560	37,560
1997	37,428	38,509
	Middle alternative projections	
1998	37,429	39,468
1999	37,564	40,894
2000	37,721	42,427
2001	37,922	44,035
2002	38,048	45,573
2003	38,184	—
2004	38,332	—
2005	38,422	—
2006	38,558	—
2007	38,578	—
2008	38,522	—
	Low alternative projections	
1998	37,429	39,468
1999	37,502	40,897
2000	37,577	42,505
2001	37,699	44,149
2002	37,732	45,706
2003	37,786	—
2004	37,868	—
2005	37,914	—
2006	37,997	—
2007	37,954	—
2008	37,823	—
	High alternative projections	
1998	37,429	39,468
1999	37,605	40,852
2000	37,826	42,291
2001	38,085	43,821
2002	38,288	45,302
2003	38,495	—
2004	38,722	—
2005	38,858	—
2006	39,044	—
2007	39,122	—
2008	39,127	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2002 due to the uncertain behavior of inflation over the long term.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: National Education Association, annual *Estimates of School Statistics*. (Latest edition 1996–97. Copyright 1997 by the National Education Association. All rights reserved.) (This table was prepared December 1997.)

Chapter 7

Expenditures of Institutions of Higher Education

The steady growth in higher education expenditures that has marked the 1980s and early 1990s is expected to continue throughout the 1990s and beyond with total current fund expenditures projected to increase 40 percent from 1994–95 to 2007–08 in constant dollars. (Note that all percent changes presented in this chapter were calculated using unrounded numbers.) Key assumptions behind these projections include: (1) the economy continues to grow at a steady rate; (2) inflation rates remain near current levels; (3) and enrollments increase as in the middle alternative projections presented in chapter 2. Projections based on alternative economic scenarios are discussed below.

The higher education system is examined by both control of institution (public versus private) and by type of institution (4-year versus 2-year). For each of these sectors of higher education, two different types of expenditures—current-fund expenditures and educational and general expenditures—are examined. Educational and general expenditures consist only of that portion of current-fund expenditures that are for activities that are directly related to the education of students. Expenditures for such activities as auxilary enterprises and university hospitals are excluded. All expenditure data have been adjusted for inflation. Since the historical trends and the projections of current-fund expenditures and educational and general expenditures are similar, emphasis is given to current-fund expenditures.

Past Trends

Following a well-established trend, current-fund expenditures have increased significantly since 1982–83 (table 37 and figure 60). In real terms, current-fund expenditures increased 57 percent from 1982–83 to 1994–95. (1994–95 is the last year for which there are actual data.) From 1982–83 to 1996–97, current-fund expenditures are estimated to have increased 65 percent. The rate of increase in current-fund expenditures during this period has not been consistent. There have been years of rapid growth and others of slow growth. Factors that are associated with current-fund expenditures during these periods include: (1) the economy as a whole, and, for public institutions, the economic situation of state and local governments; (2) the inflation rate; and (3) enrollments.

Current-fund expenditures have risen steadily since 1982–83. The greatest increases occurred from 1982–83 to 1986–87, when current-fund expenditures rose 23 percent. The economy was increasing steadily during that period with disposable income per capita rising 13 percent.

The 28 percent increase that occurred from 1986–87 to 1994–95 was partly due to the rapid increase in enrollments that occurred during that time. The number of students as measured by full-time-equivalent enrollment rose 14 percent. From 1982–83 to 1986–87, full-time-equivalent enrollment fell slightly.

While current-fund expenditures in both public and private institutions rose, they did not rise at the same rate. From 1982–83 to 1994–95, current-fund expenditures increased 52 percent in public institutions and 67 percent in private institutions (table 37).

For the period under examination, educational and general expenditures have been an almost constant percentage of current-fund expenditures (about 78 percent). Hence, the trend for educational and general expenditures is virtually identical to that for current-fund expenditures (table 38 and figure 61). Total educational and general expenditures in constant dollars increased 60 percent from 1982–83 to 1994–95. There was a 51 percent increase in educational and general expenditures in public colleges from 1982–83 to 1994–95 and a 76 percent increase in private colleges.

Since the trends of current-fund expenditures for the different sectors show some differences, the data are examined separately for each sector, except private 2-year institutions. Expenditures are examined both as a total and per student in full-time-equivalent (FTE) enrollment.

The trend for private 2-year projections is not shown separately because there have been significant additions to the universe of private 2-year institutions since 1980–81. Private 2-year institutions comprise the smallest of the higher education sectors. In 1994–95, they accounted for 1 percent of total current-fund expenditures and 2 percent of FTE enrollment.

Public 4-Year Institutions

The trend for current-fund expenditures in public 4-year institutions is very similar to that for all institutions (table 39). From 1982–83 to 1994–95 current-fund expenditures increased 52 percent with the most rapid growth occurring from 1982–83 to 1986–87. Current-fund expenditures rose 22 percent during that time, while full-time-equivalent enrollment increased by 2 percent.

As with total current-fund expenditures, current-fund expenditures per student rose each year from 1982–83 to 1994–95. Most of the increase occurred from 1982–83 to 1986–87 when current-fund expenditures per student rose 19 percent. From 1986–87 to 1994–95, when FTE enrollment rose 11 percent, current-fund expenditures per student rose 13 percent.

The trend for educational and general expenditures (table 40) is similar to that for current-fund expenditures.

Public 2-Year Institutions

Current-fund expenditures in public 2-year institutions increased 15 percent from 1982–83 to 1986–87 (table 41). A further 31-percent increase in current-fund expenditures occurred from 1986–87 to 1994–95, when FTE enrollments rose 22 percent.

A somewhat different pattern emerges when public 2-year current-fund expenditures are placed in per student terms. Between 1982–83 and 1986–87, current-fund expenditures per student rose 22 percent. From 1986–87 to 1994–95, current-fund expenditures per student rose 7 percent.

The trend for educational and general expenditures (table 42) is similar to that for current-fund expenditures.

Private 4-Year Institutions

Like public institutions, current-fund expenditures in private 4-year institutions rose rapidly throughout the 1980s and into the 1990s. From 1982–83 to 1994–95, total current-fund expenditures rose 68 percent (table 43).

Expenditures per student also increased significantly during the period from 1982–83 to 1994–95. The greatest increases occurred from 1982–83 to 1986–87, when current-fund expenditures per student rose 25 percent. After that, as enrollments increased, current expenditures per student have continued to increase, but not at as rapid a rate. From 1986–87 to 1994–95, current expenditures per student rose 14 percent.

The trend for educational and general expenditures (table 44) is similar to that for current-fund expenditures.

Alternative Projections

Projections have been prepared for each of the sectors of higher education. The methodology and assumptions used to produce these projections are discussed in appendix A6.

There are three sets of projections for the public 4-year, public 2-year, and private 4-year sectors. Due to the short time series of consistent data, only one set of projections was produced for the private 2-year sector. This set of projections for private 2-year institutions is not examined separately.

The projections in this chapter are presented in both constant 1995–96 dollars and current dollars. The projections were developed in constant dollars and then placed in current dollars using projections for the Consumer Price Index (CPI). Three alternative sets of projections for the CPI were used, one for use with the middle alternative projections, one for use with the low alternative projections, and one for use with the high alternative projections. As the set of projections for the CPI developed for use with the low alternative projections is rising at the most rapid rate and that developed for use with the high alternative projections is rising at the slowest rate, it is frequently the case that the current dollar projections from the low alternative set of projections are higher than those from the other two alternative sets of projections.

All of the alternative projections indicate an increase in current-fund expenditures throughout the remainder of the century. In the middle alternative projection, current-fund expenditures are projected to reach $263.7 billion in 2007–08. This is a 40-percent increase from 1994–95, the last year for which there are actual data. In the low alternative projection, current-fund expenditures are projected to increase to $259.6 billion. In the high alternative projection, the figure for 2007–08 is $267.1 billion.

A similar pattern is seen for educational and general expenditures. In the middle alternative projection, educational and general expenditures are projected to be $204.0 billion in 2007–08, a 38-percent increase from 1994–95. In the low alternative projection, educational and general expenditures are projected to increase to $199.9 billion. In the high alternative projection, the figure for 2007–08 is $207.4 billion.

It should be noted that private institutions are in the process of going from one accounting model to another. This change should have an effect on the revenues and expenditures of private institutions beginning, at the earliest, in 1996–97. Work has also begun on changing the accounting model of public institutions but a new accounting model for public institutions will probably not be implemented until the early part of the next century.

Public 4-Year Institutions

There are only small differences in the trends among the various sectors of higher education. In public 4-year institutions, current-fund expenditures are projected to reach $137.0 billion in the middle alternative projection in 2007–08 (table 39). This is a 41-percent increase from 1994–95 to 2007–08. In the low alternative projection, the value for 2007–08 is $135.7 billion, and in the high alternative projection, it is $138.2 billion.

Since full-time-equivalent (FTE) enrollment is projected to increase by 15 percent from 1994–95 to 2007–08, the rate of increase for expenditures is lower on a per student basis. In the middle alternative projection, a 23-percent increase is projected for the period from 1994–95 to 2007–08 compared with 22 percent for the low alternative projection and 24 percent for the high alternative projection.

Public 2-Year Institutions

Expenditures are also projected to increase in public 2-year institutions. For instance, in the middle alternative projection, current-fund expenditures are projected to reach $28.7 billion in 2007–08 and expenditures per student are projected to increase to $8,451. When the low alternative projection is used, with its lower growth path for revenues of state and local governments per capita, lower values for current expenditures are found. When the high alternative projection is used, with its higher growth path for revenues of state and local governments per capita, higher values are found.

Private 4-Year Institutions

The trends for private 4-year institutions exhibit the same patterns as other types of institutions. Total current-fund expenditures are seen as increasing each year. In the middle alternative projection, from 1994–95 to 2007–08, they are projected to increase 42 percent. Current-fund expenditures per student are projected to increase 26 percent during the same time.

Figure 60
Current-fund expenditures of public and private institutions of higher education (in constant 1995-96 dollars), with middle alternative projections: 1982-83 to 2007-08

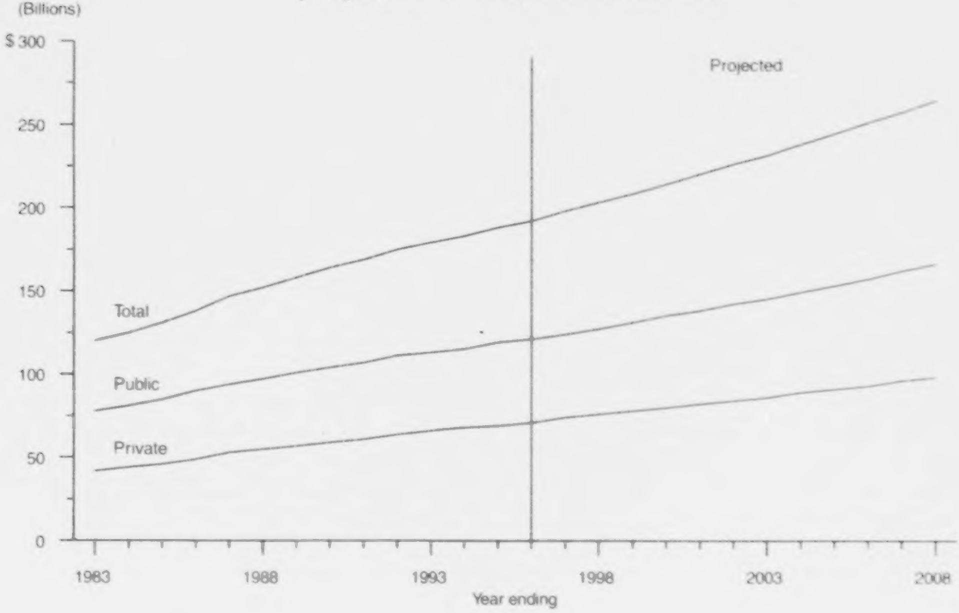


Figure 61
Educational and general expenditures of public and private institutions of higher education (in constant 1995-96 dollars), with middle alternative projections: 1982-83 to 2007-08

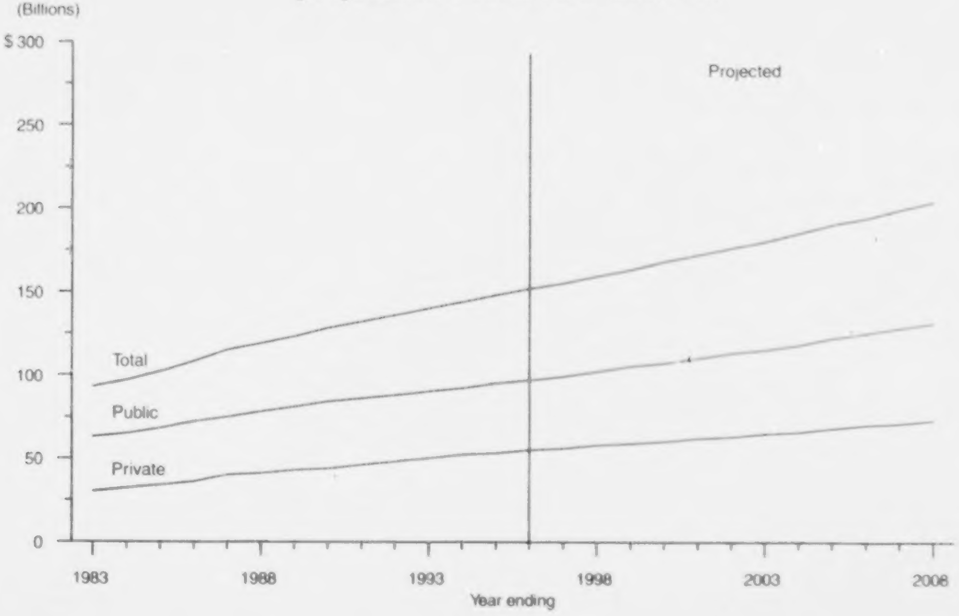


Table 37.—Current-fund expenditures of public and private institutions of higher education, with alternative projections: 50 States and D.C., 1982–83 to 2007–2008

Year ending	Constant 1995–96 dollars[1] (in billions)			Current dollars[2] (in billions)		
	Total	Public	Private	Total	Public	Private
1983	$119.6	$78.1	$41.5	$75.9	$49.6	$26.4
1984	124.5	80.6	43.9	82.0	53.1	28.9
1985	131.4	85.2	46.2	90.0	58.3	31.6
1986	138.5	89.7	48.8	97.5	63.2	34.3
1987	146.9	94.0	52.9	105.8	67.7	38.1
1988	151.7	96.9	54.9	113.8	72.6	41.1
1989	158.0	100.7	57.3	123.9	78.9	44.9
1990	163.9	104.4	59.5	134.7	85.8	48.9
1991	168.5	107.2	61.3	146.1	93.0	53.1
1992	174.6	110.5	64.1	156.2	98.8	57.3
1993	179.1	113.4	65.8	165.2	104.6	60.7
1994	183.1	115.5	67.7	173.4	109.3	64.0
1995	187.9	118.6	69.3	183.0	115.5	67.5
1996[3]	192.4	121.1	71.4	192.4	121.1	71.4
Middle alternative projections						
1997	197.8	124.0	73.7	203.5	127.6	75.9
1998	202.9	126.9	76.1	214.0	133.8	80.2
1999	208.4	130.8	77.6	226.9	142.4	84.5
2000	214.2	134.5	79.6	240.9	151.3	89.6
2001	220.1	138.3	81.9	255.6	160.6	95.0
2002	225.8	141.8	84.1	270.5	169.8	100.7
2003	231.4	145.0	86.4	—	—	—
2004	237.7	148.8	88.9	—	—	—
2005	244.1	153.0	91.2	—	—	—
2006	250.7	157.2	93.4	—	—	—
2007	257.1	161.5	95.6	—	—	—
2008	263.7	165.7	98.0	—	—	—
Low alternative projections						
1997	197.8	124.0	73.7	203.5	127.6	75.9
1998	202.9	126.9	76.1	214.0	133.8	80.2
1999	208.1	130.8	77.3	227.0	142.7	84.3
2000	213.5	134.4	79.1	241.5	152.0	89.4
2001	219.0	137.8	81.2	256.5	161.4	95.1
2002	224.3	141.0	83.4	271.8	170.8	101.0
2003	229.5	143.8	85.6	—	—	—
2004	235.4	147.4	88.0	—	—	—
2005	241.4	151.3	90.1	—	—	—
2006	247.5	155.3	92.2	—	—	—
2007	253.6	159.3	94.3	—	—	—
2008	259.6	163.2	96.5	—	—	—
High alternative projections						
1997	197.8	124.0	73.7	203.5	127.6	75.9
1998	202.9	126.9	76.1	214.0	133.8	80.2
1999	208.6	130.8	77.8	226.6	142.1	84.5
2000	214.7	134.6	80.1	240.1	150.5	89.6
2001	221.1	138.7	82.4	254.4	159.6	94.8
2002	227.1	142.4	84.7	268.7	168.5	100.2
2003	233.0	145.9	87.1	—	—	—
2004	239.7	150.0	89.7	—	—	—
2005	246.5	154.5	92.0	—	—	—
2006	253.3	159.0	94.3	—	—	—
2007	260.2	163.5	96.6	—	—	—
2008	267.1	168.0	99.1	—	—	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2002 due to the uncertain behavior of inflation over the long term.

[3] Projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Financial Statistics of Institutions of Higher Education," and "Fall Enrollment in Colleges and Universities" surveys. (This table was prepared October 1997.)

Table 38.—Educational and general expenditures of public and private institutions of higher education, with alternative projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Constant 1995–96 dollars[1] (in billions)			Current dollars[2] (in billions)		
	Total	Public	Private	Total	Public	Private
1983	$92.8	$62.5	$30.3	$58.9	$39.7	$19.2
1984	96.8	64.7	32.1	63.7	42.6	21.1
1985	102.4	68.5	33.9	70.1	46.9	23.2
1986	108.1	72.2	35.9	76.1	50.9	25.3
1987	115.2	75.5	39.7	83.0	54.4	28.6
1988	118.9	78.2	40.7	89.2	58.6	30.5
1989	123.4	80.9	42.5	96.8	63.4	33.4
1990	128.5	84.2	44.3	105.6	69.2	36.4
1991	131.7	85.8	45.8	114.1	74.4	39.7
1992	135.9	87.8	48.1	121.6	78.6	43.0
1993	139.8	90.2	49.6	129.0	83.2	45.8
1994	143.7	92.1	51.6	136.0	87.1	48.9
1995	148.1	94.7	53.4	144.2	92.2	52.0
1996[3]	151.8	96.6	55.2	151.8	96.6	55.2
			Middle alternative projections			
1997	155.5	99.2	56.3	160.0	102.0	57.9
1998	159.3	101.6	57.7	168.0	107.1	60.9
1999	163.3	104.5	58.8	177.8	113.8	64.0
2000	167.5	107.3	60.2	188.5	120.7	67.8
2001	172.0	110.2	61.7	199.7	128.0	71.7
2002	176.1	112.9	63.2	210.9	135.3	75.7
2003	180.1	115.4	64.7	—	—	—
2004	184.8	118.4	66.4	—	—	—
2005	189.6	121.7	68.0	—	—	—
2006	194.4	124.9	69.5	—	—	—
2007	199.2	128.2	71.0	—	—	—
2008	204.0	131.3	72.6	—	—	—
			Low alternative projections			
1997	155.5	99.2	56.3	160.0	102.0	57.9
1998	159.3	101.6	57.7	168.0	107.1	60.9
1999	163.1	104.5	58.6	177.8	114.0	63.9
2000	166.9	107.2	59.7	188.8	121.3	67.5
2001	170.9	109.8	61.1	200.1	128.5	71.6
2002	174.6	112.1	62.5	211.5	135.8	75.7
2003	178.2	114.4	63.9	—	—	—
2004	182.5	117.0	65.5	—	—	—
2005	186.9	120.1	66.9	—	—	—
2006	191.3	123.1	68.2	—	—	—
2007	195.6	126.0	69.6	—	—	—
2008	199.9	128.9	71.0	—	—	—
			High alternative projections			
1997	155.5	99.2	56.3	160.0	102.0	57.9
1998	159.3	101.6	57.7	168.0	107.1	60.9
1999	163.5	104.5	59.0	177.6	113.5	64.1
2000	168.1	107.4	60.7	188.0	120.1	67.9
2001	172.9	110.7	62.3	199.0	127.3	71.6
2002	177.4	113.6	63.8	209.9	134.4	75.5
2003	181.7	116.3	65.4	—	—	—
2004	186.8	119.6	67.2	—	—	—
2005	191.9	123.1	68.8	—	—	—
2006	197.1	126.6	70.4	—	—	—
2007	202.2	130.1	72.1	—	—	—
2008	207.4	133.6	73.8	—	—	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2002 due to the uncertain behavior of inflation over the long term.

[3] Projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Financial Statistics of Institutions of Higher Education," and "Fall Enrollment in Colleges and Universities" surveys. (This table was prepared October 1997.)

Table 39.—Current-fund expenditures and current-fund expenditures per full-time-equivalent (FTE) student of public 4-year institutions, with alternative projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Full-time-equivalent enrollment (in thousands)	Current-fund expenditures			
		Constant 1995–96 dollars [1]		Current dollars [2]	
		Total (in billions)	Per student in FTE	Total (in billions)	Per student in FTE
1983	4,221	$64.0	$15,153	$40.6	$9,623
1984	4,266	66.2	15,516	43.6	10,218
1985	4,238	70.2	16,556	48.0	11,330
1986	4,240	74.1	17,477	52.2	12,309
1987	4,295	77.8	18,107	56.0	13,038
1988	4,396	80.2	18,241	60.1	13,680
1989	4,506	83.3	18,494	65.3	14,503
1990	4,620	86.2	18,667	70.9	15,339
1991	4,740	88.5	18,672	76.7	16,186
1992	4,796	90.9	18,960	81.3	16,960
1993	4,798	93.3	19,447	86.1	17,938
1994	4,766	94.8	19,884	89.7	18,820
1995	4,750	97.5	20,522	94.9	19,980
1996 [3]	4,757	99.8	20,977	99.8	20,977
			Middle alternative projections		
1997	4,754	102.2	21,495	105.1	22,116
1998	4,755	104.6	21,995	110.3	23,192
1999	4,852	107.8	22,225	117.4	24,195
2000	4,929	111.0	22,512	124.8	25,320
2001	4,992	114.1	22,852	132.5	26,535
2002	5,046	117.1	23,201	140.2	27,789
2003	5,077	119.8	23,603	—	—
2004	5,139	123.0	23,940	—	—
2005	5,208	126.5	24,281	—	—
2006	5,282	129.9	24,604	—	—
2007	5,365	133.5	24,883	—	—
2008	5,441	137.0	25,178	—	—
			Low alternative projections		
1997	4,754	102.2	21,495	105.1	22,116
1998	4,755	104.6	21,995	110.3	23,192
1999	4,852	107.8	22,225	117.6	24,237
2000	4,929	110.9	22,501	125.4	25,452
2001	4,992	113.8	22,802	133.3	26,704
2002	5,046	116.6	23,118	141.3	28,004
2003	5,077	119.3	23,489	—	—
2004	5,139	122.3	23,798	—	—
2005	5,208	125.6	24,118	—	—
2006	5,282	129.0	24,418	—	—
2007	5,365	132.4	24,668	—	—
2008	5,441	135.7	24,936	—	—
			High alternative projections		
1997	4,754	102.2	21,495	105.1	22,116
1998	4,755	104.6	21,995	110.3	23,192
1999	4,852	107.8	22,225	117.2	24,144
2000	4,929	111.0	22,524	124.1	25,183
2001	4,992	114.3	22,897	131.5	26,346
2002	5,046	117.4	23,269	138.9	27,532
2003	5,077	120.3	23,697	—	—
2004	5,139	123.7	24,063	—	—
2005	5,208	127.2	24,429	—	—
2006	5,282	130.9	24,777	—	—
2007	5,365	134.6	25,080	—	—
2008	5,441	138.2	25,400	—	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2002 due to the uncertain behavior of inflation over the long term.

[3] Projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Financial Statistics of Institutions of Higher Education," and "Fall Enrollment in Colleges and Universities" surveys. (This table was prepared October 1997.)

Table 40.—Educational and general expenditures and educational and general expenditures per full-time-equivalent (FTE) student of public 4-year institutions, with alternative projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Full-time-equivalent enrollment (in thousands)	Educational and general expenditures			
		Constant 1995–96 dollars [1]		Current dollars [2]	
		Total (in billions)	Per student in FTE	Total (in billions)	Per student in FTE
1983	4,221	$49.4	$11,706	$31.4	$7,434
1984	4,266	51.3	12,022	33.8	7,917
1985	4,238	54.5	12,859	37.3	8,800
1986	4,240	57.7	13,602	40.6	9,580
1987	4,295	60.4	14,069	43.5	10,130
1988	4,396	62.6	14,248	47.0	10,685
1989	4,506	64.8	14,371	50.8	11,270
1990	4,620	67.3	14,564	55.3	11,968
1991	4,740	68.4	14,425	59.3	12,504
1992	4,796	69.6	14,520	62.3	12,988
1993	4,798	71.5	14,903	66.0	13,747
1994	4,766	72.7	15,250	68.8	14,435
1995	4,750	74.9	15,769	72.9	15,352
1996 [3]	4,757	76.8	16,135	76.8	16,135
			Middle alternative projections		
1997	4,754	78.7	16,562	81.0	17,041
1998	4,755	80.7	16,971	85.1	17,896
1999	4,852	83.0	17,099	90.3	18,615
2000	4,929	85.2	17,286	95.8	19,443
2001	4,992	87.5	17,526	101.6	20,351
2002	5,046	89.7	17,779	107.4	21,295
2003	5,077	91.8	18,088	—	—
2004	5,139	94.2	18,326	—	—
2005	5,208	96.7	18,565	—	—
2006	5,282	99.2	18,786	—	—
2007	5,365	101.7	18,964	—	—
2008	5,441	104.2	19,158	—	—
			Low alternative projections		
1997	4,754	78.7	16,562	81.0	17,041
1998	4,755	80.7	16,971	85.1	17,896
1999	4,852	83.0	17,099	90.5	18,647
2000	4,929	85.2	17,277	96.3	19,542
2001	4,992	87.3	17,482	102.2	20,473
2002	5,046	89.3	17,704	108.2	21,446
2003	5,077	91.3	17,984	—	—
2004	5,139	93.5	18,197	—	—
2005	5,208	95.9	18,417	—	—
2006	5,282	98.3	18,617	—	—
2007	5,365	100.7	18,768	—	—
2008	5,441	103.1	18,939	—	—
			High alternative projections		
1997	4,754	78.7	16,562	81.0	17,041
1998	4,755	80.7	16,971	85.1	17,896
1999	4,852	83.0	17,099	90.1	18,576
2000	4,929	85.3	17,297	95.3	19,339
2001	4,992	87.7	17,567	100.9	20,213
2002	5,046	90.0	17,841	106.5	21,109
2003	5,077	92.3	18,173	—	—
2004	5,139	94.8	18,437	—	—
2005	5,208	97.4	18,699	—	—
2006	5,282	100.0	18,943	—	—
2007	5,365	102.7	19,142	—	—
2008	5,441	105.3	19,359	—	—

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[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2002 due to the uncertain behavior of inflation over the long term.

[3] Projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Financial Statistics of Institutions of Higher Education," and "Fall Enrollment in Colleges and Universities" surveys. (This table was prepared October 1997.)

Table 41.—Current-fund expenditures and current-fund expenditures per full-time-equivalent (FTE) student of public 2-year institutions, with alternative projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Full-time-equivalent enrollment (in thousands)	Current-fund expenditures			
		Constant 1995–96 dollars[1]		Current dollars[2]	
		Total (in billions)	Per student in FTE	Total (in billions)	Per student in FTE
1983	2,630	$14.1	$5,363	$9.0	$3,406
1984	2,616	14.4	5,514	9.5	3,631
1985	2,447	15.0	6,149	10.3	4,208
1986	2,428	15.6	6,438	11.0	4,534
1987	2,483	16.2	6,517	11.7	4,692
1988	2,542	16.7	6,561	12.5	4,920
1989	2,592	17.3	6,689	13.6	5,246
1990	2,752	18.1	6,592	14.9	5,417
1991	2,819	18.7	6,645	16.2	5,761
1992	3,068	19.6	6,381	17.5	5,708
1993	3,114	20.1	6,443	18.5	5,943
1994	3,047	20.7	6,800	19.6	6,437
1995	3,035	21.1	6,962	20.6	6,778
1996[3]	2,995	21.3	7,103	21.3	7,103
			Middle alternative projections		
1997	3,037	21.8	7,195	22.5	7,402
1998	3,044	22.3	7,318	23.5	7,717
1999	3,106	23.0	7,395	25.0	8,050
2000	3,147	23.6	7,487	26.5	8,421
2001	3,176	24.2	7,619	28.1	8,847
2002	3,199	24.7	7,725	29.6	9,253
2003	3,208	25.1	7,834	—	—
2004	3,236	25.7	7,957	—	—
2005	3,275	26.5	8,097	—	—
2006	3,311	27.3	8,237	—	—
2007	3,353	28.0	8,350	—	—
2008	3,395	28.7	8,451	—	—
			Low alternative projections		
1997	3,037	21.8	7,195	22.5	7,402
1998	3,044	22.3	7,318	23.5	7,717
1999	3,106	23.0	7,395	25.0	8,064
2000	3,147	23.5	7,472	26.6	8,451
2001	3,176	24.0	7,546	28.1	8,838
2002	3,199	24.3	7,603	29.5	9,210
2003	3,208	24.6	7,664	—	—
2004	3,236	25.1	7,746	—	—
2005	3,275	25.7	7,855	—	—
2006	3,311	26.4	7,962	—	—
2007	3,353	26.9	8,031	—	—
2008	3,395	27.5	8,092	—	—
			High alternative projections		
1997	3,037	21.8	7,195	22.5	7,402
1998	3,044	22.3	7,318	23.5	7,717
1999	3,106	23.0	7,395	25.0	8,033
2000	3,147	23.6	7,506	26.4	8,392
2001	3,176	24.4	7,686	28.1	8,844
2002	3,199	25.0	7,826	29.6	9,260
2003	3,208	25.6	7,972	—	—
2004	3,236	26.3	8,138	—	—
2005	3,275	27.2	8,316	—	—
2006	3,311	28.1	8,493	—	—
2007	3,353	29.0	8,642	—	—
2008	3,395	29.8	8,780	—	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2002 due to the uncertain behavior of inflation over the long term.

[3] Projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Financial Statistics of Institutions of Higher Education," and "Fall Enrollment in Colleges and Universities" surveys. (This table was prepared October 1997.)

Table 42.—Educational and general expenditures and educational and general expenditures per full-time-equivalent (FTE) student of public 2-year institutions, with alternative projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Full-time-equivalent enrollment (in thousands)	Educational and general expenditures			
		Constant 1995–96 dollars [1]		Current dollars [2]	
		Total (in billions)	Per student in FTE	Total (in billions)	Per student in FTE
1983	2,630	$13.1	$4,989	$8.3	$3,168
1984	2,616	13.4	5,120	8.8	3,372
1985	2,447	14.0	5,720	9.6	3,915
1986	2,428	14.6	5,999	10.3	4,225
1987	2,483	15.1	6,067	10.8	4,368
1988	2,542	15.6	6,121	11.7	4,590
1989	2,592	16.2	6,231	12.7	4,887
1990	2,752	16.9	6,136	13.9	5,042
1991	2,819	17.4	6,189	15.1	5,365
1992	3,068	18.2	5,928	16.3	5,302
1993	3,114	18.7	6,008	17.3	5,542
1994	3,047	19.4	6,360	18.3	6,020
1995	3,035	19.8	6,518	19.3	6,346
1996 [3]	2,995	19.9	6,642	19.9	6,642
		Middle alternative projections			
1997	3,037	20.5	6,734	21.0	6,929
1998	3,044	20.9	6,852	22.0	7,225
1999	3,106	21.5	6,933	23.4	7,548
2000	3,147	22.1	7,026	24.9	7,903
2001	3,176	22.7	7,157	26.4	8,310
2002	3,199	23.2	7,260	27.8	8,695
2003	3,208	23.6	7,361	—	—
2004	3,236	24.2	7,483	—	—
2005	3,275	25.0	7,625	—	—
2006	3,311	25.7	7,766	—	—
2007	3,353	26.4	7,880	—	—
2008	3,395	27.1	7,982	—	—
		Low alternative projections			
1997	3,037	20.5	6,734	21.0	6,929
1998	3,044	20.9	6,852	22.0	7,225
1999	3,106	21.5	6,933	23.5	7,561
2000	3,147	22.1	7,010	25.0	7,929
2001	3,176	22.5	7,082	26.3	8,293
2002	3,199	22.8	7,133	27.6	8,641
2003	3,208	23.1	7,186	—	—
2004	3,236	23.5	7,265	—	—
2005	3,275	24.2	7,375	—	—
2006	3,311	24.8	7,481	—	—
2007	3,353	25.3	7,550	—	—
2008	3,395	25.8	7,611	—	—
		High alternative projections			
1997	3,037	20.5	6,734	21.0	6,929
1998	3,044	20.9	6,852	22.0	7,225
1999	3,106	21.5	6,933	23.4	7,532
2000	3,147	22.2	7,045	24.8	7,877
2001	3,176	22.9	7,226	26.4	8,314
2002	3,199	23.6	7,364	27.9	8,713
2003	3,208	24.1	7,505	—	—
2004	3,236	24.8	7,670	—	—
2005	3,275	25.7	7,851	—	—
2006	3,311	26.6	8,031	—	—
2007	3,353	27.4	8,182	—	—
2008	3,395	28.3	8,322	—	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2002 due to the uncertain behavior of inflation over the long term.

[3] Projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Financial Statistics of Institutions of Higher Education," and "Fall Enrollment in Colleges and Universities" surveys. (This table was prepared October 1997.)

Table 43.—Current-fund expenditures and current-fund expenditures per full-time-equivalent (FTE) student of private 4-year institutions, with alternative projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Full-time-equivalent enrollment (in thousands)	Current-fund expenditures			
		Constant 1995–96 dollars[1]		Current dollars[2]	
		Total (in billions)	Per student in FTE	Total (in billions)	Per student in FTE
1983	2,028	$40.3	$19,892	$25.6	$12,633
1984	2,059	42.7	20,713	28.1	13,641
1985	2,055	44.9	21,847	30.7	14,951
1986	2,055	47.4	23,064	33.4	16,244
1987	2,065	51.4	24,868	37.0	17,905
1988	2,091	53.3	25,509	40.0	19,130
1989	2,158	55.8	25,872	43.8	20,289
1990	2,194	58.1	26,468	47.7	21,749
1991	2,228	59.8	26,858	51.9	23,282
1992	2,286	62.7	27,409	56.0	24,518
1993	2,331	64.2	27,543	59.2	25,406
1994	2,355	66.0	28,024	62.5	26,526
1995	2,388	67.8	28,388	66.0	27,639
1996[2]	2,418	69.9	28,911	69.9	28,911
			Middle alternative projections		
1997	2,368	72.1	30,464	74.2	31,344
1998	2,365	74.5	31,494	78.5	33,210
1999	2,408	75.9	31,537	82.7	34,333
2000	2,441	78.0	31,936	87.7	35,920
2001	2,469	80.2	32,471	93.1	37,705
2002	2,492	82.4	33,051	98.6	39,587
2003	2,507	84.7	33,791	—	—
2004	2,537	87.1	34,358	—	—
2005	2,570	89.4	34,789	—	—
2006	2,606	91.6	35,162	—	—
2007	2,647	93.8	35,450	—	—
2008	2,683	96.1	35,825	—	—
			Low alternative projections		
1997	2,368	72.1	30,464	74.2	31,344
1998	2,365	74.5	31,494	78.5	33,210
1999	2,408	75.7	31,435	82.5	34,282
2000	2,441	77.4	31,706	87.6	35,864
2001	2,469	79.5	32,222	93.2	37,735
2002	2,492	81.7	32,774	98.9	39,701
2003	2,507	83.9	33,480	—	—
2004	2,537	86.2	34,003	—	—
2005	2,570	88.4	34,378	—	—
2006	2,606	90.4	34,695	—	—
2007	2,647	92.5	34,941	—	—
2008	2,683	94.6	35,259	—	—
			High alternative projections		
1997	2,368	72.1	30,464	74.2	31,344
1998	2,365	74.5	31,494	78.5	33,210
1999	2,408	76.1	31,624	82.7	34,355
2000	2,441	78.4	32,130	87.7	35,922
2001	2,469	80.7	32,683	92.8	37,606
2002	2,492	83.0	33,296	98.2	39,395
2003	2,507	85.4	34,068	—	—
2004	2,537	88.0	34,675	—	—
2005	2,570	90.3	35,120	—	—
2006	2,606	92.5	35,500	—	—
2007	2,647	94.8	35,824	—	—
2008	2,683	97.3	36,254	—	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2002 due to the uncertain behavior of inflation over the long term.

[3] Projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Financial Statistics of Institutions of Higher Education," and "Fall Enrollment in Colleges and Universities" surveys. (This table was prepared October 1997.)

Table 44.—Educational and general expenditures and educational and general expenditures per full-time-equivalent (FTE) student of private 4-year institutions, with alternative projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Full-time-equivalent enrollment (in thousands)	Educational and general expenditures			
		Constant 1995–96 dollars [1]		Current dollars [2]	
		Total (in billions)	Per student in FTE	Total (in billions)	Per student in FTE
1983	2,028	$29.3	$14,428	$18.6	$9,163
1984	2,059	31.0	15,070	20.4	9,924
1985	2,055	32.7	15,921	22.4	10,896
1986	2,055	34.6	16,859	24.4	11,873
1987	2,065	38.3	18,537	27.6	13,347
1988	2,091	39.3	18,800	29.5	14,099
1989	2,158	41.3	19,112	32.3	14,988
1990	2,194	43.0	19,616	35.4	16,119
1991	2,228	44.5	19,985	38.6	17,324
1992	2,286	46.8	20,453	41.8	18,295
1993	2,331	48.2	20,666	44.4	19,063
1994	2,355	50.1	21,294	47.5	20,155
1995	2,388	52.0	21,777	50.6	21,202
1996 [3]	2,418	53.8	22,262	53.8	22,262
Middle alternative projections					
1997	2,368	54.8	23,162	56.4	23,831
1998	2,365	56.3	23,807	59.4	25,104
1999	2,408	57.3	23,804	62.4	25,914
2000	2,441	58.7	24,057	66.1	27,058
2001	2,469	60.2	24,394	69.9	28,326
2002	2,492	61.6	24,739	73.8	29,632
2003	2,507	63.1	25,183	—	—
2004	2,537	64.8	25,558	—	—
2005	2,570	66.4	25,829	—	—
2006	2,606	67.9	26,056	—	—
2007	2,647	69.4	26,225	—	—
2008	2,683	71.0	26,454	—	—
Low alternative projections					
1997	2,368	54.8	23,162	56.4	23,831
1998	2,365	56.3	23,807	59.4	25,104
1999	2,408	57.1	23,703	62.2	25,850
2000	2,441	58.2	23,827	65.8	26,951
2001	2,469	59.6	24,138	69.8	28,268
2002	2,492	60.9	24,453	73.8	29,621
2003	2,507	62.3	24,860	—	—
2004	2,537	63.9	25,188	—	—
2005	2,570	65.3	25,399	—	—
2006	2,606	66.6	25,565	—	—
2007	2,647	68.0	25,688	—	—
2008	2,683	69.4	25,857	—	—
High alternative projections					
1997	2,368	54.8	23,162	56.4	23,831
1998	2,365	56.3	23,807	59.4	25,104
1999	2,408	57.5	23,886	62.5	25,948
2000	2,441	59.2	24,247	66.2	27,109
2001	2,469	60.7	24,606	69.9	28,313
2002	2,492	62.3	24,989	73.7	29,566
2003	2,507	63.8	25,465	—	—
2004	2,537	65.6	25,881	—	—
2005	2,570	67.3	26,169	—	—
2006	2,606	68.8	26,406	—	—
2007	2,647	70.4	26,614	—	—
2008	2,683	72.2	26,899	—	—

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projections in current dollars are not shown after 2002 due to the uncertain behavior of inflation over the long term.

[3] Projected.

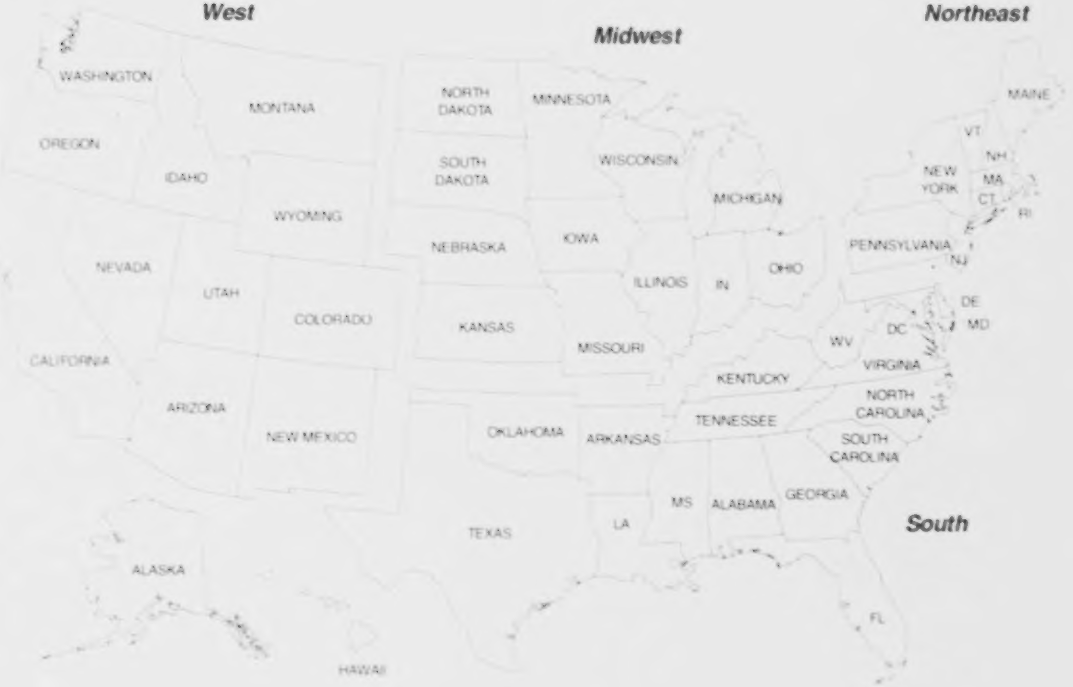
NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, "Financial Statistics of Institutions of Higher Education," and "Fall Enrollment in Colleges and Universities" surveys. (This table was prepared October 1997.)

State-Level Projections

Figure 62

Map of the United States, by region



Chapter 8

Public Elementary and Secondary Enrollment

Public elementary and secondary school enrollment is projected to rise between 1996 and the year 2008, but growth will vary widely across the Nation (table 45 and figure 63). Enrollment will increase most rapidly in the Western and Southern regions, where public school enrollment is expected to rise 16 percent and 7 percent, respectively. An increase of 1 percent is projected for the Northeastern region, while a decrease of 2 percent is expected in the Midwestern region (table 46 and figure 64).

Public School Enrollment

Over the projection period, public school enrollment is expected to vary across states. The Northeast will have enrollment increases in four out of nine states. Increases will occur in Massachusetts (4 percent), New Jersey (4 percent), New York (3 percent), and Rhode Island (3 percent). Decreases are projected in Connecticut (4 percent), Maine (9 percent), New Hampshire (0.2 percent), Pennsylvania (4 percent), and Vermont (2 percent). Over the projection period, enrollment will grow between 1996 and 2002 in most states, while it will decline between 2002 and 2008.

In the Midwest, enrollment will increase in three of the states between 1996 and 2008. Increases are projected for Illinois (2 percent), Indiana (3 percent), and Kansas (0.5 percent). Decreases are projected for Iowa (8 percent), Michigan (5 percent), Minnesota (6 percent), Missouri (1 percent), Nebraska (2 percent), North Dakota (7 percent), Ohio (4 percent), South Dakota (3 percent), and Wisconsin (6 percent).

Enrollment increases are projected for many of the Southern states between 1996 and 2008. Increases are projected for Delaware (8 percent), Georgia (13 percent), North Carolina (8 percent), Tennessee (8 percent), Texas (14 percent), and Virginia (8 percent). Smaller increases are expected for Alabama (5 percent), Florida (5 percent), Maryland (5 percent), Mississippi (3 percent), and South Carolina (5 percent). Decreases in enrollment have been projected for Arkansas (1 percent), the District of Columbia (9 percent), Kentucky (2 percent), Louisiana (3 percent), Oklahoma (4 percent), and West Virginia (8 percent).

All of the states in the West except Montana are expected to show increases in enrollment between 1996 and 2008. Increases are expected in Alaska (14 percent), Arizona (21 percent), California (20 percent), Hawaii (18 percent), Idaho (15 percent), Nevada (13 percent), New Mexico (16 percent), and Utah (13 percent) over the projection period. Smaller increases are expected in Colorado (8 percent), Oregon (2 percent), Washington (5 percent), and Wyoming (7 percent). Montana is expected to decrease by 1 percent.

Elementary Enrollment

Between 1996 and 2008, public elementary school enrollment in kindergarten through grade 8 (K–8) is expected to increase 2 percent. Increases in elementary enrollment are expected to occur in half of the states across the Nation (table 47 and figure 65). These expected increases in elementary enrollment are a reflection of immigration and the rising number of births beginning in 1977, rather than changes in the attendance rates of young children. The NCES projections do not account for enrollment increases that may be caused by changing state and local policies about the provision of prekindergarten and kindergarten programs. Expansion of these programs could lead to higher enrollments at the elementary school level.

Elementary enrollment is expected to show a decrease of 4 percent in the Northeast between 1996 and 2008 (table 48 and figure 66). Decreases are projected for Connecticut (8 percent), Maine (10 percent), Massachusetts (4 percent), New Hampshire (3 percent), New York (2 percent), Pennsylvania (7 percent), Rhode Island (4 percent), and Vermont (4 percent). An increase of 0.1 percent is projected for New Jersey.

A decrease in elementary enrollment has been projected for the Midwestern region. Between 1996 and 2008, enrollment in the Midwest is projected to decrease by 4 percent. Eleven of the twelve states in this region are projected to show decreases. These will occur in Illinois (2 percent), Iowa (7 percent), Kansas (1 percent), Michigan (7 percent), Minnesota (7 percent), Missouri (4 percent), Nebraska (2 percent), North Dakota (8 percent), Ohio (6 percent), South Dakota (1 percent), and Wisconsin (6 percent). An increase of 1 percent is expected for Indiana.

An increase of 3 percent is expected for the Southern region between 1996 and 2008. Increases are expected in Georgia (9 percent) and Texas (10 percent). Smaller increases are projected for Alabama (4 percent), Delaware (3 percent), Maryland (0.3 percent), Mississippi (2 percent), North Carolina (1 percent), South Carolina (2 percent), Tennessee (4 percent), and Virginia (4 percent). Decreases are projected for Arkansas (2 percent), the District of Columbia (12 percent), Florida (0.4 percent), Kentucky (3 percent), Louisiana (4 percent), Oklahoma (7 percent), and West Virginia (6 percent). Most of the growth in the states will occur between 1996 and 2002.

Elementary enrollment in the Western states is expected to rise between 1996 and 2008, an increase of 11 percent. Over the projection period, enrollment increases are anticipated for Alaska (12 percent), Arizona (15 percent), California (13 percent), Hawaii (17 percent), Idaho (17 percent), New Mexico (16 percent), Utah (13 percent), and Wyoming (10 percent). Other enrollment increases are projected for Colorado (4 percent), Montana (2 percent), Nevada (6 percent), Oregon (0.3 percent), and Washington (3 percent). Most of the growth in the states will occur between 1996 and 2002.

High School Enrollment

Between 1996 and 2008, enrollment in public high schools (grades 9 through 12) is expected to increase by 15 percent (table 49 and figure 67). Over the projection period, enrollment increases are projected in all of the regions.

The Northeast is projected to increase by 12 percent between 1996 and 2008 (table 50 and figure 68). Increases are expected in Massachusetts (24 percent), New Jersey (15 percent), New York (16 percent), and Rhode Island (21 percent). Other enrollment increases are expected for Connecticut (8 percent), New Hampshire (8 percent), Pennsylvania (2 percent), and Vermont (4 percent). Maine is projected to decrease by 8 percent. Most of growth in the states will occur between 1996 and 2002.

The Midwestern region is expected to show an increase of 2 percent in high school enrollment between 1996 and 2008. Increases are expected in Illinois (10 percent), Indiana (7 percent), Kansas (4 percent), Michigan (0.3 percent), and Missouri (5 percent). Decreases are projected in Iowa (9 percent), Minnesota (3 percent), Nebraska (2 percent), North Dakota (5 percent), Ohio (2 percent), South Dakota (7 percent), and Wisconsin (4 percent).

Between 1996 and 2008, public high school enrollment in the South is projected to increase by 16 percent. Over the projection period, increases are expected in Delaware (20 percent), Florida (21 percent), Georgia (23 percent), Maryland (16 percent), North Carolina (27 percent), South Carolina (13 percent), Tennessee (16 percent), Texas (24 percent), and Virginia (22 percent). Other increases are expected for Alabama (9 percent), Arkansas (1 percent), the District of Columbia (1 percent), Louisiana (2 percent), Mississippi (5 percent), and Oklahoma (1 percent). Decreases are expected for Kentucky (0.5 percent) and West Virginia (11 percent).

The Western region's public high school enrollment is expected to increase by 29 percent between 1996 and 2008. Between 1996 and 2008, increases have been projected for Alaska (18 percent), Arizona (38 percent), California (40 percent), Colorado (17 percent), Hawaii (23 percent), Idaho (10 percent), Nevada (32 percent),, New Mexico (16 percent), Oregon (5 percent), Utah (13 percent), and Washington (9 percent). Decreases are expected for Montana (6 percent) and Wyoming (0.5 percent).

Figure 63
Percent change in grades K-12 enrollment in public schools, by state: Fall 1996 to fall 2008

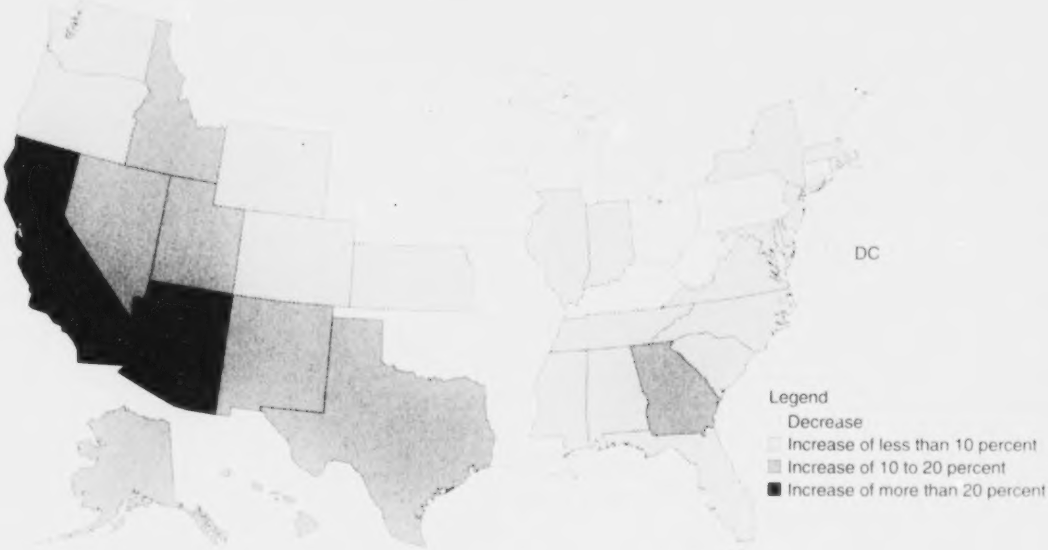

DC
Legend
Decrease
Increase of less than 10 percent
Increase of 10 to 20 percent
Increase of more than 20 percent

Figure 64
Percent change in public K-12 enrollment, by region: Fall 1996 to fall 2008

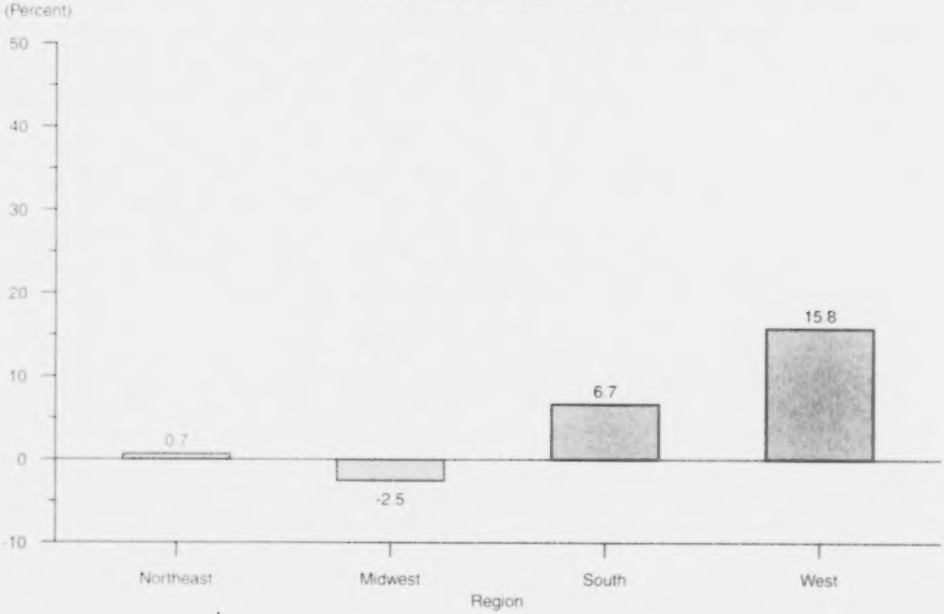


Figure 65
Percent change in grades K-8 enrollment in public schools, by state: Fall 1996 to fall 2008

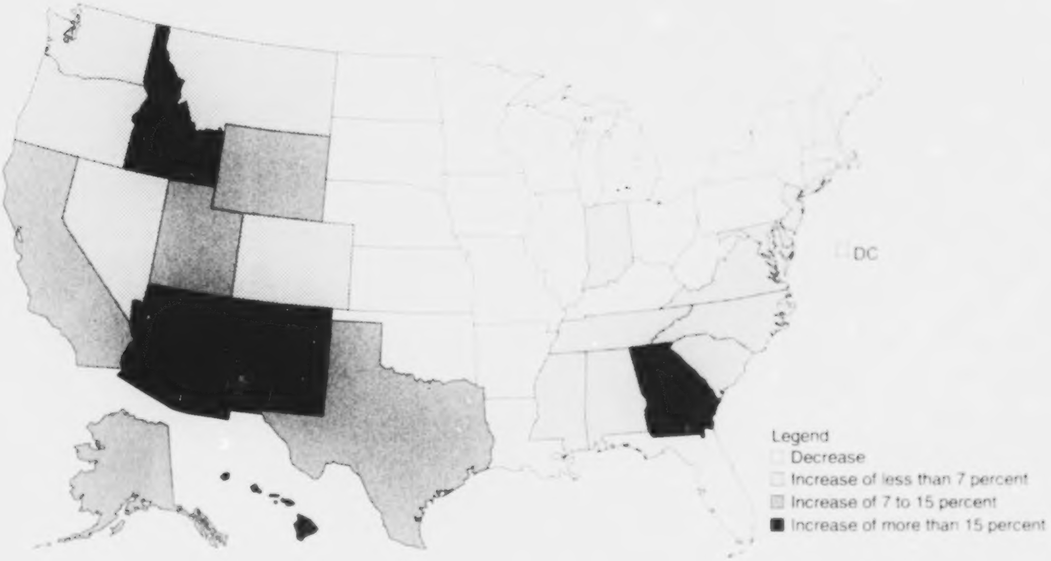

DC
Legend
Decrease
Increase of less than 7 percent
Increase of 7 to 15 percent
Increase of more than 15 percent

Figure 66
Percent change in public K-8 enrollment, by region: Fall 1996 to fall 2008

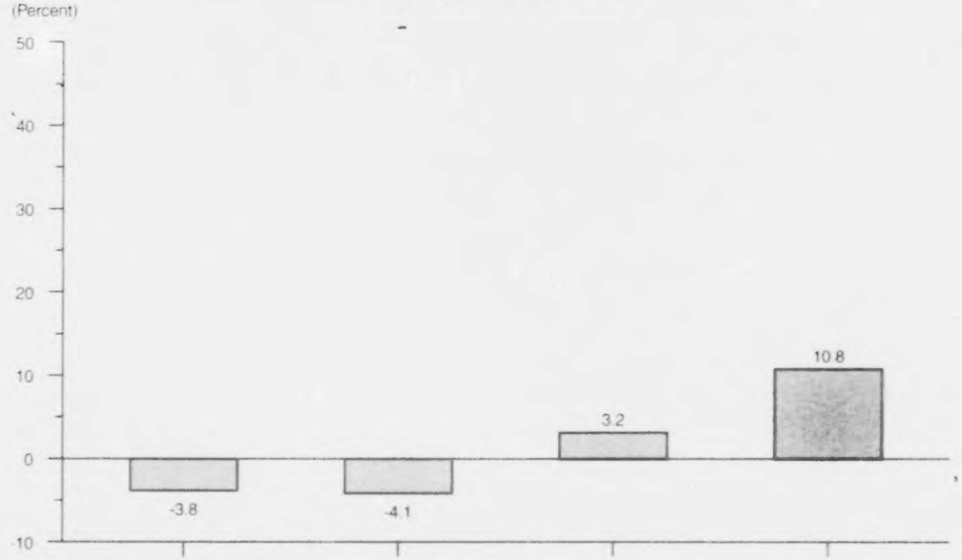


Figure 67
Percent change in grades 9-12 enrollment in public schools, by state: Fall 1996 to fall 2008

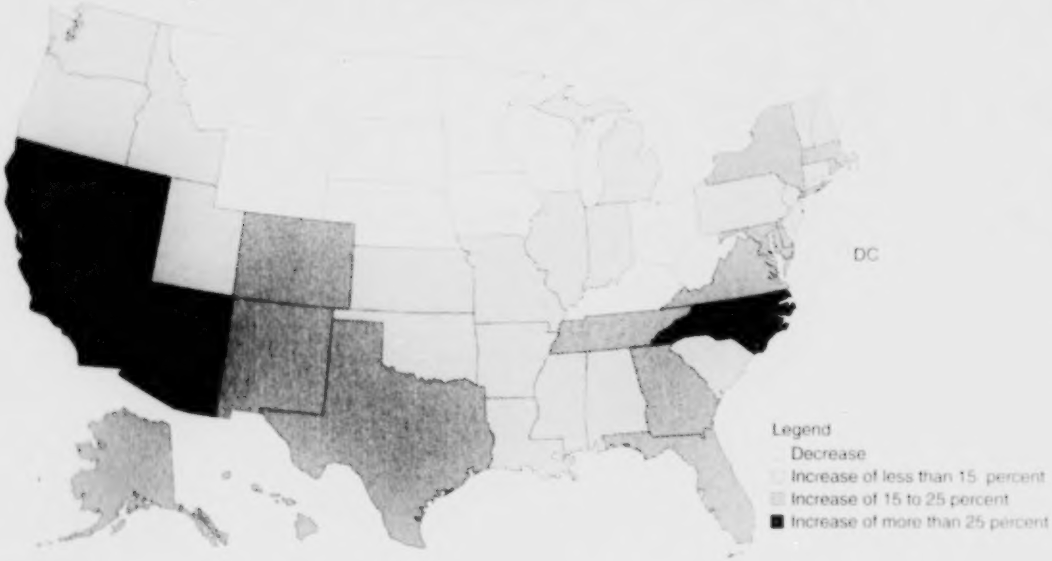

DC
Legend
Decrease
Increase of less than 15 percent
Increase of 15 to 25 percent
■ Increase of more than 25 percent

Figure 68
Percent change in public 9-12 enrollment, by region: Fall 1996 to fall 2008

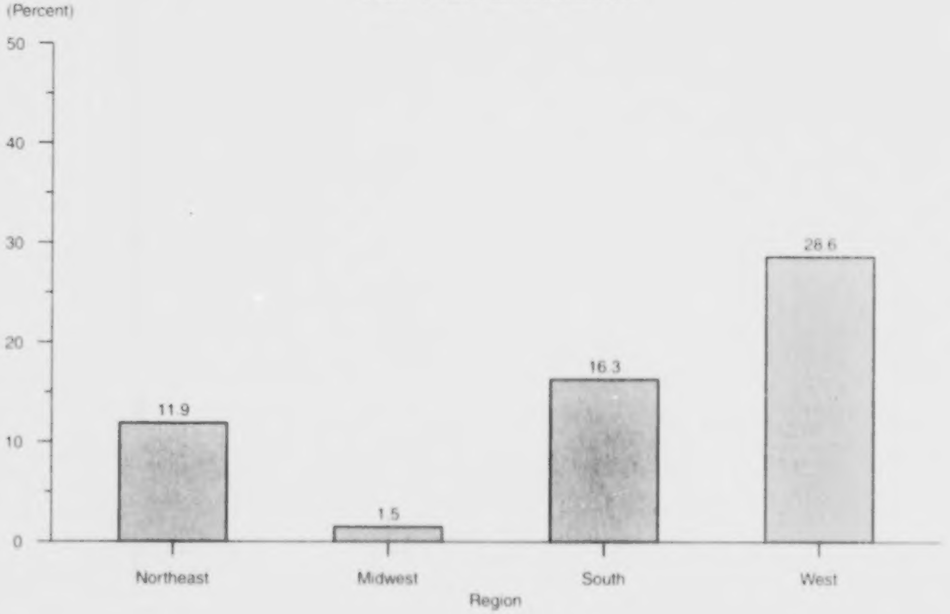


Table 45.—Enrollment in grades K–12 in public elementary and secondary schools, by region and state, with projections: Fall 1990 to fall 2008

(In thousands)

Region and state	Actual						Projected			
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
United States	41,217	42,047	42,823	43,465	44,111	44,840	45,630	46,308	46,792	47,143
Northeast	7,282	7,407	7,526	7,654	7,760	7,894	8,046	8,150	8,215	8,250
Connecticut	469	481	488	496	507	518	531	538	542	542
Maine	215	216	216	217	213	214	214	214	212	209
Massachusetts	834	846	860	878	894	915	932	948	959	968
New Hampshire	173	177	181	185	189	194	198	201	202	202
New Jersey	1,090	1,110	1,131	1,151	1,174	1,197	1,224	1,245	1,260	1,272
New York	2,598	2,644	2,690	2,734	2,766	2,813	2,871	2,910	2,937	2,955
Pennsylvania	1,668	1,693	1,718	1,744	1,765	1,788	1,816	1,832	1,838	1,837
Rhode Island	139	142	144	146	147	150	153	156	157	157
Vermont	96	97	99	103	105	106	107	107	107	107
Midwest	9,944	10,080	10,198	10,289	10,386	10,512	10,603	10,665	10,680	10,670
Illinois	1,821	1,848	1,874	1,893	1,916	1,944	1,974	1,994	2,010	2,020
Indiana	955	957	961	966	969	977	986	994	999	1,005
Iowa	484	491	495	499	500	502	505	504	500	495
Kansas	437	445	452	458	461	463	466	470	471	471
Michigan	1,584	1,594	1,604	1,599	1,615	1,641	1,657	1,662	1,660	1,656
Minnesota	756	774	794	810	822	835	842	848	848	845
Missouri	817	843	859	866	879	890	899	906	909	910
Nebraska	274	280	282	285	287	290	290	291	290	290
North Dakota	118	118	119	119	119	119	118	117	116	115
Ohio	1,771	1,784	1,795	1,807	1,814	1,836	1,841	1,847	1,844	1,836
South Dakota	129	132	135	143	143	145	145	146	146	145
Wisconsin	798	815	829	844	861	870	880	886	886	883
South	14,807	15,081	15,357	15,591	15,851	16,118	16,394	16,655	16,864	17,031
Alabama	722	722	732	734	737	746	750	757	761	765
Arkansas	436	439	441	444	448	453	458	461	462	463
Delaware	100	102	104	106	107	108	110	112	114	115
District of Columbia	81	81	81	81	80	80	81	81	80	79
Florida	1,862	1,932	1,981	2,041	2,111	2,176	2,246	2,299	2,343	2,372
Georgia	1,152	1,178	1,207	1,235	1,271	1,311	1,335	1,367	1,395	1,420
Kentucky	636	646	655	655	658	660	660	663	663	663
Louisiana	785	794	798	801	798	797	803	803	800	797
Maryland	715	736	752	773	791	806	824	837	846	853
Mississippi	502	504	507	506	506	506	507	511	513	516
North Carolina	1,087	1,098	1,114	1,133	1,157	1,183	1,214	1,242	1,268	1,289
Oklahoma	579	588	597	604	610	616	621	623	622	618
South Carolina	622	627	640	644	649	646	655	661	664	667
Tennessee	825	834	855	867	881	894	908	924	938	950
Texas	3,383	3,464	3,542	3,608	3,677	3,748	3,818	3,899	3,967	4,025
Virginia	999	1,016	1,032	1,045	1,061	1,080	1,098	1,114	1,128	1,141
West Virginia	322	320	318	314	311	307	306	303	300	296
West	9,184	9,479	9,742	9,931	10,114	10,316	10,586	10,838	11,033	11,192
Alaska	114	119	122	126	127	128	128	130	132	132
Arizona	640	657	673	709	737	744	765	801	828	854
California	4,950	5,107	5,255	5,327	5,407	5,536	5,705	5,847	5,961	6,051
Colorado	574	593	613	625	641	656	670	685	696	705
Hawaii	172	175	177	180	184	187	195	200	204	206
Idaho	221	226	232	237	240	243	247	252	256	261
Montana	153	156	160	163	164	166	166	168	168	167
Nevada	201	212	223	236	251	265	280	294	307	318
New Mexico	302	309	316	322	327	330	339	346	351	356
Oregon	472	499	510	517	522	528	536	541	545	547
Utah	447	456	464	471	475	477	480	485	489	495
Washington	840	869	896	916	938	957	975	990	998	1,002
Wyoming	98	102	100	101	100	100	99	99	98	98

Table 45.—Enrollment in grades K–12 in public elementary and secondary schools, by region and state, with projections: Fall 1990 to fall 2008—Continued

(In thousands)

Region and state	Projected								
	2000	2001	2002	2003	2004	2005	2006	2007	2008
United States	47,439	47,698	47,924	48,075	48,221	48,335	48,368	48,342	48,201
Northeast	8,273	8,296	8,305	8,296	8,279	8,252	8,216	8,168	8,100
Connecticut	541	539	535	531	526	521	517	514	509
Maine	206	205	203	200	199	198	197	196	195
Massachusetts	975	983	988	990	990	990	984	977	967
New Hampshire	202	202	203	202	202	201	200	199	197
New Jersey	1,281	1,288	1,292	1,293	1,292	1,288	1,285	1,281	1,273
New York	2,971	2,986	2,997	3,002	3,006	3,004	2,994	2,980	2,957
Pennsylvania	1,832	1,828	1,822	1,811	1,799	1,785	1,773	1,759	1,740
Rhode Island	158	158	159	159	159	159	159	158	157
Vermont	107	107	107	107	107	107	106	105	104
Midwest	10,658	10,642	10,617	10,572	10,532	10,492	10,457	10,411	10,344
Illinois	2,031	2,034	2,033	2,029	2,026	2,021	2,019	2,015	2,005
Indiana	1,010	1,015	1,020	1,023	1,025	1,026	1,025	1,021	1,015
Iowa	491	487	483	479	476	473	471	469	466
Kansas	471	470	470	469	470	471	471	470	469
Michigan	1,650	1,647	1,641	1,632	1,622	1,613	1,605	1,594	1,579
Minnesota	841	836	830	822	815	808	804	799	794
Missouri	910	909	908	905	902	899	897	893	888
Nebraska	289	288	288	287	287	287	287	286	285
North Dakota	114	113	113	112	112	112	111	111	110
Ohio	1,829	1,825	1,820	1,812	1,804	1,796	1,786	1,776	1,761
South Dakota	145	144	144	144	143	143	142	142	141
Wisconsin	879	874	868	859	851	844	840	835	830
South	17,177	17,290	17,394	17,468	17,534	17,578	17,583	17,563	17,501
Alabama	771	777	782	787	791	795	795	793	789
Arkansas	464	464	464	464	463	461	460	457	453
Delaware	117	118	120	121	121	122	122	121	119
District of Columbia	78	78	77	77	76	76	75	75	74
Florida	2,391	2,398	2,401	2,399	2,395	2,387	2,383	2,376	2,364
Georgia	1,445	1,464	1,481	1,495	1,505	1,511	1,513	1,511	1,505
Kentucky	663	662	662	661	659	657	654	650	644
Louisiana	793	790	787	784	783	784	784	783	781
Maryland	858	863	867	870	871	872	870	867	862
Mississippi	518	521	524	526	528	530	529	527	523
North Carolina	1,309	1,324	1,335	1,341	1,344	1,342	1,335	1,325	1,310
Oklahoma	613	608	604	601	598	597	596	595	593
South Carolina	671	677	683	688	692	696	695	692	688
Tennessee	961	971	979	984	988	989	988	985	978
Texas	4,077	4,117	4,159	4,197	4,237	4,273	4,301	4,327	4,343
Virginia	1,155	1,166	1,177	1,185	1,192	1,199	1,198	1,196	1,190
West Virginia	294	292	291	290	289	288	286	285	282
West	11,331	11,470	11,608	11,739	11,876	12,012	12,112	12,201	12,257
Alaska	133	135	136	138	140	142	144	145	146
Arizona	876	892	907	918	926	932	933	932	928
California	6,131	6,224	6,318	6,414	6,520	6,633	6,714	6,793	6,854
Colorado	713	718	723	725	727	728	728	727	724
Hawaii	209	211	213	216	219	221	225	228	231
Idaho	265	269	272	276	279	280	282	283	282
Montana	167	167	167	166	166	166	166	166	165
Nevada	326	331	333	332	330	325	323	321	317
New Mexico	360	364	369	373	378	383	387	391	393
Oregon	548	548	548	548	547	546	547	546	545
Utah	501	507	514	522	530	537	541	543	544
Washington	1,005	1,008	1,010	1,011	1,013	1,015	1,018	1,021	1,021
Wyoming	97	98	99	100	101	103	104	105	106

NOTE: Historical numbers may differ from those in previous editions. Includes most kindergarten and some nursery school enrollment.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys. (This table was prepared October 1997.)

Table 46.—Percent change in grades K–12 enrollment in public schools, by region and state, with projections: Fall 1990 to fall 2008

Region and state	Actual	Projected		
	1990 to 1996	1996 to 2002	2002 to 2008	1996 to 2008
United States	10.7	5.0	0.6	5.6
Northeast	10.5	3.2	-2.5	0.7
Connecticut	13.2	0.8	-4.8	-4.1
Maine	-0.4	-5.5	-3.9	-9.2
Massachusetts	11.7	6.0	-2.1	3.7
New Hampshire	14.4	2.5	-2.7	-0.2
New Jersey	12.4	5.5	-1.4	4.0
New York	10.5	4.4	-1.3	3.0
Pennsylvania	8.9	0.3	-4.5	-4.2
Rhode Island	10.2	3.9	-1.1	2.7
Vermont	11.2	0.6	-2.5	-2.0
Midwest	6.6	0.1	-2.6	-2.5
Illinois	8.4	3.0	-1.4	1.6
Indiana	3.3	3.4	-0.5	2.9
Iowa	4.3	-4.3	-3.5	-7.7
Kansas	6.7	0.8	-0.2	0.5
Michigan	4.6	-1.0	-3.8	-4.7
Minnesota	11.3	-1.5	-4.3	-5.7
Missouri	10.1	1.0	-2.1	-1.2
Nebraska	5.9	-0.9	-0.9	-1.8
North Dakota	0.2	-4.6	-2.2	-6.7
Ohio	3.9	-1.1	-3.2	-4.3
South Dakota	12.4	-0.7	-2.0	-2.7
Wisconsin	10.3	-1.3	-4.4	-5.7
South	10.7	6.1	0.6	6.7
Alabama	4.0	4.3	0.8	5.1
Arkansas	5.0	1.3	-2.4	-1.1
Delaware	10.6	8.4	-0.1	8.3
District of Columbia	0.9	-5.3	-3.8	-8.9
Florida	20.6	6.9	-1.6	5.3
Georgia	15.9	11.0	1.6	12.8
Kentucky	3.7	0.3	-2.6	-2.4
Louisiana	2.4	-2.1	-0.7	-2.8
Maryland	15.2	5.3	-0.6	4.7
Mississippi	0.9	3.2	-0.1	3.1
North Carolina	11.7	10.0	-1.9	8.0
Oklahoma	7.2	-2.6	-1.9	-4.5
South Carolina	5.3	4.2	0.7	5.0
Tennessee	10.1	7.8	-0.1	7.7
Texas	12.9	8.9	4.4	13.8
Virginia	10.0	7.2	1.1	8.4
West Virginia	-5.2	-4.7	-3.0	-7.6
West	15.3	9.7	5.6	15.8
Alaska	12.7	6.2	7.1	13.8
Arizona	19.5	18.6	2.3	21.4
California	15.2	10.7	8.5	20.1
Colorado	16.7	7.8	0.2	8.0
Hawaii	13.7	9.2	8.4	18.4
Idaho	11.6	10.5	3.7	14.6
Montana	8.7	0.2	-1.0	-0.7
Nevada	39.3	18.7	-4.7	13.2
New Mexico	12.2	8.8	6.6	16.0
Oregon	13.4	2.3	-0.6	1.7
Utah	7.6	7.1	5.7	13.2
Washington	16.1	3.5	1.2	4.7
Wyoming	0.9	-0.6	7.5	6.9

NOTE: Calculations are based on unrounded numbers. Includes most kindergarten and some nursery school enrollment.

SOURCE: US Department of Education, National Center for Education Statistics, Common Core of Data surveys. (This table was prepared October 1997.)

Table 47.—Enrollment in grades K–8 in public schools, by region and state, with projections: Fall 1990 to fall 2008

(In thousands)

Region and state	Actual						Projected			
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
United States	29,878	30,506	31,088	31,504	31,898	32,341	32,778	33,206	33,522	33,722
Northeast	5,189	5,293	5,387	5,486	5,568	5,659	5,754	5,818	5,850	5,853
Connecticut	347	355	362	369	376	384	392	396	396	394
Maine	155	157	156	157	156	156	156	154	152	148
Massachusetts	604	616	630	646	659	675	685	694	698	698
New Hampshire	126	130	133	136	139	142	143	144	144	143
New Jersey	784	801	818	844	862	880	902	919	930	938
New York	1,828	1,862	1,893	1,921	1,949	1,980	2,020	2,048	2,066	2,075
Pennsylvania	1,172	1,195	1,216	1,233	1,244	1,257	1,269	1,275	1,277	1,271
Rhode Island	102	104	106	107	108	110	112	113	113	113
Vermont	71	73	74	75	76	75	75	75	74	74
Midwest	7,130	7,245	7,312	7,348	7,387	7,448	7,474	7,503	7,506	7,482
Illinois	1,310	1,328	1,345	1,356	1,368	1,390	1,416	1,435	1,447	1,453
Indiana	676	676	677	679	679	684	688	694	700	706
Iowa	345	348	349	348	346	344	341	339	336	333
Kansas	320	325	328	330	329	329	327	328	327	326
Michigan	1,145	1,159	1,165	1,160	1,170	1,192	1,200	1,201	1,197	1,188
Minnesota	546	557	569	577	581	586	584	584	580	574
Missouri	588	612	622	622	628	636	641	643	643	641
Nebraska	198	201	202	203	203	203	201	201	199	198
North Dakota	85	85	85	84	83	82	80	79	78	77
Ohio	1,258	1,277	1,284	1,290	1,295	1,297	1,292	1,297	1,297	1,291
South Dakota	95	96	98	102	102	101	100	100	100	99
Wisconsin	566	580	588	596	601	603	603	604	601	596
South	10,859	11,068	11,287	11,440	11,604	11,772	11,923	12,094	12,245	12,362
Alabama	527	526	535	536	535	539	540	546	552	558
Arkansas	314	315	318	318	319	322	325	326	327	329
Delaware	73	75	76	77	77	77	78	79	80	81
District of Columbia	61	61	61	61	62	62	63	63	62	61
Florida	1,370	1,428	1,470	1,515	1,570	1,614	1,653	1,681	1,703	1,716
Georgia	849	868	892	910	935	966	978	1,001	1,023	1,044
Kentucky	459	466	470	467	467	468	467	470	472	473
Louisiana	586	591	591	587	584	580	581	579	577	574
Maryland	527	543	556	569	581	590	600	607	612	615
Mississippi	372	370	370	369	367	366	365	369	372	376
North Carolina	783	795	811	828	847	871	895	915	934	948
Oklahoma	425	432	439	441	443	446	444	442	439	435
South Carolina	452	456	467	467	469	463	470	474	478	481
Tennessee	598	605	622	630	641	651	660	673	684	693
Texas	2,511	2,575	2,634	2,681	2,721	2,757	2,797	2,852	2,905	2,947
Virginia	728	741	758	767	774	788	799	809	817	824
West Virginia	224	222	219	216	213	211	210	208	208	207
West	6,700	6,900	7,102	7,230	7,340	7,462	7,627	7,791	7,920	8,026
Alaska	85	89	92	94	94	93	93	94	95	95
Arizona	479	490	498	526	543	549	561	588	608	626
California	3,615	3,720	3,851	3,903	3,956	4,041	4,165	4,262	4,339	4,396
Colorado	420	436	451	460	470	479	484	491	497	501
Hawaii	123	127	129	132	134	136	140	143	145	148
Idaho	160	161	165	167	169	170	171	175	178	183
Montana	111	113	115	117	117	116	116	116	116	115
Nevada	150	158	165	175	185	196	206	216	224	231
New Mexico	208	213	217	226	229	229	231	235	239	243
Oregon	340	359	365	368	372	376	379	381	383	383
Utah	325	327	330	330	328	328	326	330	335	341
Washington	613	633	652	660	673	680	687	693	696	698
Wyoming	71	74	72	71	70	69	67	67	66	66

Table 47.—Enrollment in grades K–8 in public schools, by region and state, with projections: Fall 1990 to fall 2008—Continued

(In thousands)

Region and state	Projected								
	2000	2001	2002	2003	2004	2005	2006	2007	2008
United States	33,903	34,055	34,124	34,124	33,958	33,756	33,584	33,489	33,455
Northeast	5,849	5,844	5,819	5,781	5,717	5,655	5,600	5,562	5,535
Connecticut	391	388	384	379	372	368	364	362	360
Maine	145	144	143	142	140	140	139	140	140
Massachusetts	697	697	694	689	681	675	668	664	660
New Hampshire	141	141	141	140	139	138	138	138	138
New Jersey	944	946	944	939	931	921	912	907	903
New York	2,083	2,086	2,081	2,071	2,050	2,025	2,003	1,986	1,974
Pennsylvania	1,262	1,256	1,247	1,236	1,221	1,207	1,195	1,187	1,180
Rhode Island	113	112	112	111	110	109	108	108	107
Vermont	73	73	73	73	73	72	72	72	72
Midwest	7,464	7,454	7,429	7,392	7,328	7,271	7,224	7,191	7,168
Illinois	1,459	1,459	1,455	1,449	1,437	1,421	1,409	1,399	1,391
Indiana	711	715	717	717	714	709	704	699	695
Iowa	330	329	328	326	323	321	320	318	318
Kansas	325	326	326	326	325	325	324	324	324
Michigan	1,183	1,179	1,173	1,164	1,148	1,137	1,129	1,124	1,121
Minnesota	569	565	561	556	550	546	544	544	544
Missouri	639	639	638	635	630	625	621	619	618
Nebraska	198	198	198	198	198	197	197	197	197
North Dakota	76	75	75	75	74	74	74	74	74
Ohio	1,285	1,283	1,277	1,269	1,257	1,246	1,235	1,228	1,222
South Dakota	99	99	100	100	99	99	99	99	99
Wisconsin	590	586	582	578	573	569	566	565	564
South	12,468	12,539	12,582	12,594	12,541	12,468	12,396	12,340	12,302
Alabama	564	569	573	575	574	571	567	563	560
Arkansas	330	331	332	331	328	325	322	320	318
Delaware	81	82	83	83	83	82	81	81	80
District of Columbia	60	60	59	58	57	56	56	56	56
Florida	1,725	1,727	1,722	1,712	1,694	1,674	1,662	1,652	1,645
Georgia	1,063	1,076	1,084	1,088	1,085	1,080	1,075	1,070	1,066
Kentucky	475	474	475	474	470	465	461	456	452
Louisiana	570	569	568	567	564	561	558	556	555
Maryland	618	620	620	619	614	609	605	603	602
Mississippi	380	384	386	388	387	384	381	377	374
North Carolina	958	964	963	958	947	935	923	913	905
Oklahoma	432	429	427	424	421	417	415	414	415
South Carolina	484	488	491	491	489	486	483	480	479
Tennessee	702	708	712	712	709	704	698	694	690
Texas	2,984	3,011	3,038	3,063	3,075	3,075	3,074	3,075	3,081
Virginia	833	840	844	845	842	838	834	830	826
West Virginia	206	206	206	206	204	202	200	199	197
West	8,121	8,218	8,294	8,357	8,372	8,362	8,364	8,395	8,450
Alaska	95	97	98	99	100	101	102	103	104
Arizona	640	651	658	662	661	657	653	650	647
California	4,447	4,507	4,555	4,597	4,613	4,612	4,618	4,647	4,694
Colorado	505	508	511	512	511	509	507	506	505
Hawaii	150	153	155	157	158	159	161	162	164
Idaho	187	191	194	196	198	198	198	199	199
Montana	115	116	116	117	117	117	117	117	117
Nevada	236	237	237	236	232	227	224	222	220
New Mexico	247	251	256	260	262	264	265	267	269
Oregon	384	385	385	384	382	380	379	379	380
Utah	347	352	357	362	364	366	367	368	370
Washington	700	703	705	706	703	701	701	703	706
Wyoming	66	67	68	70	71	72	72	73	74

NOTE: Historical numbers may differ from those in previous editions. Includes most kindergarten and some nursery school enrollment.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data Surveys. (This table was prepared October 1997.)

Table 48.—Percent change in grades K–8 enrollment in public schools, by region and state, with projections: Fall 1990 to fall 2008

Region and state	Actual	Projected		
	1990 to 1996	1996 to 2002	2002 to 2008	1996 to 2008
United States	9.7	4.1	-2.0	2.1
Northeast	10.9	1.1	-4.9	-3.8
Connecticut	12.9	-2.2	-6.2	-8.2
Maine	0.3	-8.2	-1.7	-9.8
Massachusetts	13.4	1.3	-4.9	-3.7
New Hampshire	13.1	-1.6	-1.6	-3.2
New Jersey	15.1	4.7	-4.4	0.1
New York	10.5	3.1	-5.2	-2.3
Pennsylvania	8.2	-1.7	-5.4	-7.0
Rhode Island	9.9	0.1	-4.0	-3.9
Vermont	6.4	-3.0	-1.5	-4.4
Midwest	4.8	-0.6	-3.5	-4.1
Illinois	8.1	2.8	-4.4	-1.7
Indiana	1.7	4.3	-3.0	1.1
Iowa	-1.0	-4.0	-3.0	-6.9
Kansas	2.4	-0.5	-0.6	-1.0
Michigan	4.8	-2.3	-4.5	-6.6
Minnesota	7.1	-4.1	-3.0	-6.9
Missouri	9.0	-0.5	-3.1	-3.6
Nebraska	1.5	-1.3	-0.5	-1.8
North Dakota	-5.4	-6.8	-0.8	-7.5
Ohio	2.8	-1.2	-4.3	-5.5
South Dakota	5.3	-0.6	-0.1	-0.7
Wisconsin	6.6	-3.4	-3.1	-6.4
South	9.8	5.5	-2.2	3.2
Alabama	2.4	6.2	-2.3	3.7
Arkansas	3.6	2.1	-4.1	-2.0
Delaware	7.2	6.2	-2.9	3.2
District of Columbia	3.6	-6.6	-5.3	-11.6
Florida	20.7	4.2	-4.4	-0.4
Georgia	15.1	10.9	-1.6	9.1
Kentucky	1.7	1.6	-4.6	-3.2
Louisiana	-0.9	-2.2	-2.3	-4.5
Maryland	13.9	3.4	-3.0	0.3
Mississippi	-1.8	5.8	-3.2	2.4
North Carolina	14.2	7.6	-6.0	1.2
Oklahoma	4.5	-3.9	-2.8	-6.6
South Carolina	3.9	4.5	-2.5	1.9
Tennessee	10.4	7.8	-3.1	4.5
Texas	11.4	8.6	1.4	10.2
Virginia	9.7	5.7	-2.1	3.5
West Virginia	-6.5	-1.6	-4.3	-5.9
West	13.8	8.8	1.9	10.8
Alaska	9.0	5.3	6.7	12.3
Arizona	17.1	17.2	-1.6	15.4
California	15.2	9.4	3.1	12.7
Colorado	15.2	5.6	-1.1	4.4
Hawaii	14.3	10.2	5.8	16.6
Idaho	6.5	13.7	2.7	16.7
Montana	3.9	0.5	1.1	1.6
Nevada	37.7	15.0	-7.3	6.5
New Mexico	11.2	10.6	5.1	16.1
Oregon	11.4	1.5	-1.2	0.3
Utah	0.4	9.5	3.4	13.2
Washington	12.1	2.7	0.1	2.8
Wyoming	-5.1	1.3	9.0	10.4

NOTE: Calculations are based on unrounded numbers. Includes most kindergarten and some nursery school enrollment.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys. (This table was prepared October 1997.)

Table 49.—Enrollment in grades 9–12 in public schools, by region and state, with projections: Fall 1990 to fall 2008

(In thousands)

Region and state	Actual						Projected			
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
United States	11,338	11,541	11,735	11,961	12,213	12,500	12,852	13,103	13,270	13,420
Northeast	2,092	2,114	2,139	2,168	2,192	2,235	2,292	2,332	2,365	2,397
Connecticut	122	126	127	128	131	134	139	142	145	148
Maine	60	60	60	60	57	58	59	60	61	61
Massachusetts	230	230	230	232	235	240	247	254	261	270
New Hampshire	46	47	48	49	50	52	55	57	58	60
New Jersey	306	309	313	308	312	317	322	326	330	334
New York	770	782	796	813	817	833	851	862	871	880
Pennsylvania	496	498	502	511	521	531	548	557	561	566
Rhode Island	37	38	38	39	40	40	41	42	43	44
Vermont	25	24	25	28	29	30	31	32	33	33
Midwest	2,814	2,835	2,886	2,941	2,999	3,064	3,129	3,162	3,173	3,188
Illinois	512	520	529	537	548	553	559	560	563	568
Indiana	279	281	283	287	290	293	299	300	299	299
Iowa	139	143	146	151	155	158	163	165	164	162
Kansas	117	120	123	128	132	134	139	142	144	145
Michigan	440	435	439	439	445	450	457	461	463	467
Minnesota	211	217	224	233	240	249	258	264	268	271
Missouri	228	231	238	244	250	254	258	263	265	268
Nebraska	76	78	80	82	84	87	89	91	91	91
North Dakota	33	33	34	35	36	37	38	38	39	39
Ohio	514	506	511	517	519	539	549	550	547	545
South Dakota	34	35	37	41	42	43	45	46	46	46
Wisconsin	232	235	241	248	259	267	276	282	285	287
South	3,948	4,013	4,070	4,150	4,247	4,346	4,471	4,561	4,619	4,669
Alabama	195	196	196	199	201	207	211	211	209	208
Arkansas	123	123	124	127	128	131	133	134	134	134
Delaware	27	28	28	29	30	31	32	33	34	35
District of Columbia	19	20	20	19	18	18	18	18	18	18
Florida	492	505	512	526	542	563	593	618	640	656
Georgia	303	309	316	325	336	345	357	366	372	376
Kentucky	177	180	185	188	191	192	193	193	191	189
Louisiana	199	203	207	213	214	217	223	223	223	224
Maryland	188	193	196	203	210	215	224	230	234	238
Mississippi	131	134	137	137	139	140	142	142	141	139
North Carolina	304	303	304	305	309	312	319	327	334	342
Oklahoma	154	156	158	163	167	171	177	181	183	183
South Carolina	170	171	173	177	180	182	185	186	186	186
Tennessee	226	229	233	237	241	243	248	251	254	257
Texas	872	889	907	927	957	991	1,022	1,046	1,063	1,079
Virginia	270	275	274	278	286	292	299	305	311	317
West Virginia	98	99	99	99	98	96	96	94	92	89
West	2,484	2,579	2,640	2,701	2,775	2,854	2,959	3,048	3,113	3,167
Alaska	29	30	31	32	33	34	35	36	37	38
Arizona	161	167	176	183	195	195	204	213	220	228
California	1,336	1,387	1,404	1,424	1,452	1,495	1,541	1,585	1,623	1,655
Colorado	154	157	161	165	171	177	186	194	200	204
Hawaii	49	48	49	49	50	52	55	57	58	58
Idaho	61	64	67	70	72	74	76	77	78	78
Montana	42	43	45	46	48	49	51	52	52	52
Nevada	51	54	58	61	65	69	74	79	83	87
New Mexico	94	96	98	96	98	100	107	111	112	113
Oregon	132	139	145	148	150	152	157	160	163	164
Utah	122	129	134	141	146	149	154	155	154	154
Washington	227	237	245	256	265	277	288	297	301	304
Wyoming	27	28	29	29	30	31	32	32	32	32

Table 49.—Enrollment in grades 9–12 in public schools, by region and state, with projections: Fall 1990 to fall 2008—Continued

(In thousands)

Region and state	Projected								
	2000	2001	2002	2003	2004	2005	2006	2007	2008
United States	13,537	13,643	13,800	13,951	14,263	14,579	14,785	14,854	14,746
Northeast	2,423	2,451	2,486	2,515	2,562	2,597	2,616	2,605	2,565
Connecticut	149	150	151	152	153	153	153	152	149
Maine	61	60	60	59	58	58	57	56	54
Massachusetts	278	286	294	301	309	315	316	313	307
New Hampshire	61	61	62	62	63	63	62	61	59
New Jersey	337	342	348	353	361	368	373	374	370
New York	888	900	916	931	956	978	992	993	983
Pennsylvania	570	573	575	574	578	578	577	572	560
Rhode Island	45	46	47	48	49	50	51	51	50
Vermont	34	34	34	34	35	35	34	33	32
Midwest	3,194	3,188	3,187	3,180	3,204	3,221	3,234	3,220	3,176
Illinois	572	574	578	580	589	600	610	616	614
Indiana	299	300	303	306	312	317	321	322	319
Iowa	161	158	155	153	153	152	152	151	148
Kansas	145	144	144	144	145	146	146	146	145
Michigan	468	468	468	468	474	475	475	470	459
Minnesota	272	271	269	266	265	262	259	255	250
Missouri	270	270	270	270	272	274	276	275	271
Nebraska	91	90	89	89	89	90	90	89	88
North Dakota	38	38	38	38	38	38	37	37	36
Ohio	543	542	543	543	546	549	551	548	539
South Dakota	45	45	45	44	44	43	43	43	42
Wisconsin	289	288	285	281	278	275	273	270	265
South	4,709	4,751	4,812	4,875	4,993	5,110	5,188	5,223	5,199
Alabama	207	207	209	212	217	223	227	230	229
Arkansas	133	133	133	133	135	136	137	137	135
Delaware	35	36	37	38	39	40	40	40	39
District of Columbia	18	18	18	18	19	20	20	19	18
Florida	665	672	680	687	702	713	721	724	718
Georgia	382	388	397	407	420	431	438	441	439
Kentucky	187	188	187	187	189	191	193	194	192
Louisiana	223	221	219	218	219	223	225	226	226
Maryland	240	243	247	251	258	263	265	264	261
Mississippi	138	137	137	138	141	145	148	149	149
North Carolina	351	360	372	384	397	408	412	411	405
Oklahoma	181	179	178	177	178	179	181	180	178
South Carolina	187	188	192	196	203	210	212	212	209
Tennessee	260	263	267	272	279	285	290	291	289
Texas	1,093	1,106	1,122	1,134	1,162	1,198	1,227	1,252	1,262
Virginia	321	327	333	340	350	360	365	366	364
West Virginia	87	86	85	84	85	85	86	86	85
West	3,210	3,253	3,314	3,381	3,504	3,650	3,748	3,805	3,807
Alaska	38	38	38	39	40	41	42	42	42
Arizona	235	242	249	256	265	275	280	283	281
California	1,684	1,717	1,763	1,817	1,908	2,021	2,096	2,146	2,160
Colorado	207	210	212	213	216	219	221	221	219
Hawaii	58	58	58	59	60	62	64	66	67
Idaho	78	78	79	79	81	83	84	84	83
Montana	52	51	51	50	50	49	49	49	48
Nevada	91	93	95	97	98	98	99	99	97
New Mexico	113	113	113	113	116	119	122	124	124
Oregon	164	164	164	164	165	167	168	167	165
Utah	154	155	157	160	165	171	174	175	174
Washington	305	304	304	305	309	314	318	318	315
Wyoming	31	31	30	30	31	31	32	32	32

NOTE: Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data Surveys. (This table was prepared October 1997.)

Table 50.—Percent change in grades 9–12 enrollment in public schools, by region and state, with projections: Fall 1990 to fall 2008

Region and state	Actual	Projected		
	1990 to 1996	1996 to 2002	2002 to 2008	1996 to 2008
United States	13.4	7.4	6.9	14.7
Northeast	9.6	8.5	3.2	11.9
Connecticut	13.9	9.2	-1.3	7.7
Maine	-2.2	1.6	-9.1	-7.6
Massachusetts	7.3	19.1	4.4	24.3
New Hampshire	18.1	13.3	-5.0	7.6
New Jersey	5.3	7.8	6.6	14.9
New York	10.5	7.6	7.4	15.5
Pennsylvania	10.5	5.0	-2.6	2.3
Rhode Island	11.0	14.3	5.7	20.8
Vermont	25.0	9.2	-4.8	4.0
Midwest	11.2	1.9	-0.4	1.5
Illinois	9.2	3.4	6.3	9.9
Indiana	7.1	1.6	5.3	7.0
Iowa	17.6	-4.8	-4.7	-9.3
Kansas	18.3	3.8	0.5	4.3
Michigan	4.0	2.4	-2.1	0.3
Minnesota	22.2	4.4	-7.0	-2.9
Missouri	13.0	4.6	0.2	4.9
Nebraska	17.3	0.0	-1.8	-1.8
North Dakota	14.6	0.1	-5.1	-5.0
Ohio	6.8	-1.0	-0.7	-1.7
South Dakota	32.3	-0.9	-6.3	-7.2
Wisconsin	19.1	3.2	-7.0	-4.0
South	13.3	7.6	8.0	16.3
Alabama	8.2	-0.7	9.4	8.7
Arkansas	8.6	-0.6	1.9	1.3
Delaware	19.9	13.5	6.1	20.4
District of Columbia	-7.7	-0.5	1.1	0.6
Florida	20.6	14.6	5.7	21.2
Georgia	18.0	11.3	10.5	23.0
Kentucky	9.0	-2.9	2.5	-0.5
Louisiana	12.1	-1.6	3.3	1.6
Maryland	18.8	10.3	5.7	16.5
Mississippi	8.6	-3.4	8.5	4.8
North Carolina	5.1	16.6	8.9	27.0
Oklahoma	14.5	0.6	0.2	0.8
South Carolina	9.1	3.4	8.9	12.7
Tennessee	9.4	7.8	8.0	16.4
Texas	17.2	9.8	12.5	23.6
Virginia	10.6	11.2	9.4	21.6
West Virginia	-2.3	-11.3	-0.0	-11.3
West	19.1	12.0	14.9	28.6
Alaska	23.8	8.5	8.3	17.5
Arizona	26.6	22.4	12.7	38.0
California	15.3	14.5	22.5	40.2
Colorado	20.8	13.5	3.3	17.3
Hawaii	12.0	6.6	15.2	22.8
Idaho	25.1	3.3	6.2	9.7
Montana	21.3	-0.3	-5.6	-5.9
Nevada	43.9	29.0	2.0	31.6
New Mexico	14.4	5.1	10.0	15.7
Oregon	18.5	4.4	0.7	5.2
Utah	26.6	2.0	10.9	13.1
Washington	26.9	5.6	3.5	9.3
Wyoming	16.3	-4.5	4.2	-0.5

NOTE: Calculations are based on unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys. (This table was prepared October 1997.)

Chapter 9

Public High School Graduates

The projected increases in public high school enrollment between 1996 and 2008 will cause corresponding increases in the number of public high school graduates. The number of public high school graduates is expected to increase by 20 percent between 1995–96 and 2007–08. This increase will be reflected in many states, with 45 states showing increases (table 51 and figure 69). Each region of the country is expected to reflect this increase in the number of public high school graduates. Projected trends in the number of public high school graduates by state could be impacted by changes in policies affecting graduation requirements.

The number of public high school graduates in the Northeast is expected to increase 23 percent between 1995–96 and 2007–08 (table 52 and figure 70). Large increases are expected in Connecticut (33 percent), Massachusetts (30 percent), New Hampshire (30 percent), New Jersey (26 percent), New York (21 percent), Pennsylvania (20 percent), Rhode Island (22 percent), and Vermont (20 percent). Maine is projected to increase by 6 percent.

The number of public high school graduates in the Midwest is expected to increase by 13 percent between 1995–96 and 2007–08. Increases are expected in Illinois (14 percent), Minnesota (22 percent), Missouri (15 percent), South Dakota (18 percent), and Wisconsin (20 percent). Smaller increases are projected for Indiana (8 percent), Iowa (8 percent), Kansas (9 percent), Michigan (13 percent), Nebraska (10 percent), and Ohio (11 percent). A decrease of 2 percent is projected for North Dakota.

Between 1995–96 and 2007–08, the number of public high school graduates in the South will increase by 20 percent. The largest increases are expected in Delaware (20 percent), Florida (45 percent), Georgia (33 percent), Maryland (30 percent), North Carolina (27 percent), Tennessee (18 percent), Texas (23 percent), and Virginia (21 percent). Other increases are projected for Alabama (7 percent), Arkansas (12 percent), Louisiana (2 percent), Oklahoma (10 percent) and South Carolina (7 percent). Despite an overall increase in the region, four Southern locales are expected to have declines in the number of graduates. Decreases are expected in the District of Columbia (6 percent), Kentucky (0.5 percent), Mississippi (1 percent), and West Virginia (13 percent).

The number of high school graduates in the West is expected to increase, rising by 26 percent. The largest increases are expected in Arizona (35 percent), California (26 percent), Colorado (33 percent), Hawaii (34 percent), Nevada (97 percent), New Mexico (22 percent), and Washington (30 percent). Other increases are projected in Alaska (17 percent), Idaho (18 percent), Montana (11 percent), Oregon (18 percent), and Utah (4 percent). Wyoming is expected to decrease by 7 percent.

Figure 69
Percent change in number of public high school graduates, by state: 1995-96 to 2007-08

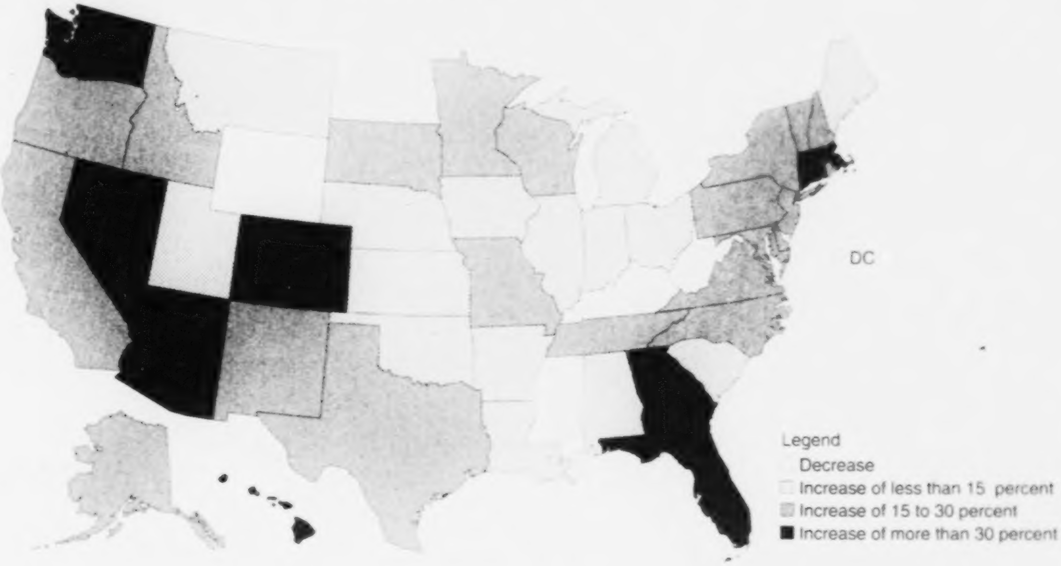

DC
Legend
Decrease
Increase of less than 15 percent
Increase of 15 to 30 percent
Increase of more than 30 percent

Figure 70
Percent change in number of public high school graduates, by region: 1995-96 to 2007-08

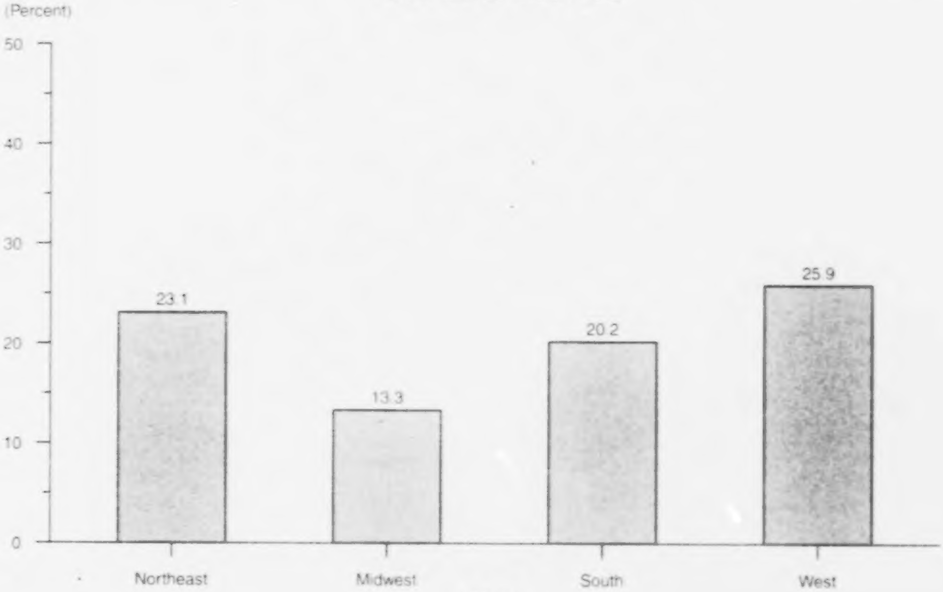


Table 51.—Number of high school graduates in public schools, by region and state, with projections: 1989–90 to 2007–08

Region and state	Actual						Projected			
	1989–90	1990–91	1991–92	1992–93	1993–94	1994–95	1995–96	1996–97	1997–98	1998–99
United States	2,320,337	2,234,893	2,226,016	2,233,241	2,220,849	2,273,541	2,306,395	2,306,010	2,378,160	2,465,420
Northeast	446,045	419,007	419,115	413,955	408,755	413,417	413,711	413,820	425,840	434,710
Connecticut	27,878	27,290	27,079	26,799	26,330	26,445	26,905	26,570	27,340	28,410
Maine	13,839	13,151	13,177	12,103	11,384	11,501	10,830	10,950	11,120	10,930
Massachusetts	55,941	50,216	50,317	48,321	47,453	47,679	47,385	47,660	48,580	50,170
New Hampshire	10,766	10,059	10,329	10,065	9,933	10,145	10,334	10,410	10,810	11,360
New Jersey	69,824	67,003	66,669	67,134	66,125	67,403	65,924	65,910	67,120	67,880
New York	143,318	133,562	134,573	132,963	132,708	132,401	133,640	132,440	137,520	138,850
Pennsylvania	110,527	104,770	103,881	103,715	101,958	104,146	104,635	105,950	109,030	112,230
Rhode Island	7,825	7,744	7,859	7,640	7,450	7,826	7,910	7,750	7,830	8,100
Vermont	6,127	5,212	5,231	5,215	5,414	5,871	6,147	6,190	6,500	6,790
Midwest	616,700	583,888	578,106	588,810	578,914	596,753	598,866	601,750	620,810	644,640
Illinois	108,119	103,329	102,742	103,628	102,126	105,164	106,392	104,340	107,950	110,860
Indiana	60,012	57,892	56,630	57,559	54,650	56,058	57,005	56,950	58,050	60,360
Iowa	31,796	28,593	29,224	30,677	30,247	31,268	32,022	32,480	33,980	35,580
Kansas	25,367	24,414	24,129	24,720	25,319	26,125	27,119	26,820	27,640	29,350
Michigan	93,807	88,234	87,756	85,302	83,385	84,628	83,242	82,970	84,320	86,410
Minnesota	49,087	46,474	46,228	48,002	47,514	49,354	50,216	51,840	53,730	56,330
Missouri	48,957	46,928	46,556	46,864	46,566	48,862	49,728	50,000	51,770	53,240
Nebraska	17,664	16,500	17,057	17,569	17,072	17,969	18,027	18,150	18,870	20,230
North Dakota	7,690	7,573	7,438	7,310	7,522	7,817	7,996	8,090	8,250	8,480
Ohio	114,513	107,484	104,522	109,200	107,700	109,418	105,702	108,170	110,540	114,900
South Dakota	7,650	7,127	7,261	7,952	8,442	8,355	8,616	8,800	9,380	10,090
Wisconsin	52,038	49,340	48,563	50,027	48,371	51,735	52,801	53,160	56,320	58,830
South	796,385	780,268	762,751	754,670	748,079	770,737	778,070	772,220	798,140	830,130
Alabama	40,485	39,042	38,680	36,007	34,447	36,268	36,991	36,330	37,710	39,350
Arkansas	26,475	25,668	25,845	25,655	24,990	24,636	24,782	24,710	25,730	26,820
Delaware	5,550	5,223	5,325	5,492	5,230	5,234	5,167	5,470	5,680	5,880
District of Columbia	3,626	3,369	3,385	3,136	3,207	2,974	2,921	2,710	2,610	2,610
Florida	88,934	87,419	93,674	89,428	88,032	89,827	90,528	89,450	95,600	100,060
Georgia	56,605	60,088	57,742	57,602	56,356	56,660	58,720	57,930	60,670	64,410
Kentucky	38,005	35,835	33,896	36,361	38,454	37,626	38,852	38,180	38,710	39,490
Louisiana	36,053	33,489	32,247	33,682	34,822	36,480	36,488	36,490	38,330	38,680
Maryland	41,566	39,014	39,720	39,523	39,091	41,387	42,484	42,240	43,860	45,890
Mississippi	25,182	23,665	22,912	23,597	23,379	23,837	23,713	23,090	23,120	24,540
North Carolina	64,782	62,792	61,157	60,460	57,738	59,540	58,961	56,440	58,130	59,490
Oklahoma	35,606	33,007	32,670	30,542	31,872	33,319	33,435	33,280	33,780	35,760
South Carolina	32,483	32,999	30,698	31,297	30,603	30,680	31,690	31,180	31,820	33,040
Tennessee	46,094	44,847	45,138	44,166	40,643	43,556	43,770	43,700	44,300	45,120
Texas	172,480	174,306	162,270	160,546	163,191	170,322	169,863	172,170	178,460	186,950
Virginia	60,605	58,441	57,338	56,948	56,140	58,260	59,226	58,570	60,190	62,120
West Virginia	21,854	21,064	20,054	20,228	19,884	20,131	20,481	20,280	19,420	19,950
West	461,207	451,730	466,044	475,806	485,101	492,634	515,748	518,210	533,380	555,940
Alaska	5,386	5,458	5,535	5,535	5,747	5,765	5,910	5,960	6,250	6,590
Arizona	32,103	31,282	31,264	31,747	31,799	30,989	34,110	33,330	34,740	36,890
California	236,291	234,164	244,594	249,320	253,083	255,200	267,694	269,860	272,760	281,640
Colorado	32,967	31,293	31,059	31,839	31,867	32,409	32,969	32,990	34,740	36,850
Hawaii	10,325	8,974	9,160	8,854	9,369	9,407	10,142	10,150	9,760	11,060
Idaho	11,971	11,961	12,734	12,974	13,281	14,198	14,660	14,950	15,860	16,100
Montana	9,370	9,013	9,046	9,389	9,601	10,134	10,282	10,490	10,830	11,190
Nevada	9,477	9,370	8,811	9,042	9,485	10,038	10,813	11,200	11,970	13,030
New Mexico	14,884	15,157	14,824	15,172	14,892	14,928	15,559	15,700	16,070	17,190
Oregon	25,473	24,597	25,305	26,301	26,338	26,713	27,614	27,490	28,400	28,700
Utah	21,196	22,219	23,513	24,197	26,407	27,670	29,584	28,400	31,330	32,340
Washington	45,941	42,514	44,381	45,262	47,235	49,294	50,343	51,610	54,170	57,550
Wyoming	5,823	5,728	5,818	6,174	5,997	5,889	6,068	6,100	6,490	6,800

Table 51.—Number of high school graduates in public schools, by region and state, with projections: 1989–90 to 2007–08—Continued

Region and state	Projected								
	1999–2000	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08
United States	2,551,510	2,576,470	2,587,410	2,607,410	2,663,720	2,667,160	2,675,410	2,728,380	2,772,460
Northeast	450,010	458,010	461,650	467,930	480,260	486,050	492,620	504,640	509,480
Connecticut	29,700	30,760	31,110	32,320	33,290	33,900	34,480	35,190	35,820
Maine	11,110	11,600	11,850	11,990	12,120	12,100	11,500	11,710	11,540
Massachusetts	51,790	52,980	53,560	55,470	57,630	57,890	59,150	60,580	61,710
New Hampshire	11,950	12,460	12,680	12,800	13,470	13,380	13,720	13,820	13,390
New Jersey	69,420	70,800	71,400	72,850	74,600	76,110	78,180	81,280	83,250
New York	144,980	145,660	146,490	147,330	150,480	151,290	154,320	158,810	161,630
Pennsylvania	115,410	117,950	118,330	118,410	122,180	124,850	124,480	126,420	125,140
Rhode Island	8,520	8,610	8,760	9,080	8,990	9,080	9,370	9,520	9,640
Vermont	7,130	7,200	7,470	7,680	7,520	7,460	7,430	7,310	7,360
Midwest	657,860	655,210	652,650	656,780	671,960	668,350	660,460	668,250	678,240
Illinois	112,540	108,820	108,080	112,760	116,170	115,910	115,470	120,170	121,230
Indiana	60,090	60,550	59,460	58,930	58,680	58,510	58,050	60,880	61,750
Iowa	36,310	35,800	36,040	35,150	35,660	35,060	33,600	33,800	34,430
Kansas	30,110	30,410	30,760	30,540	31,020	30,660	30,020	29,980	29,530
Michigan	87,630	88,830	88,280	89,530	92,620	91,250	91,870	91,830	94,350
Minnesota	58,610	59,470	59,720	60,460	61,830	61,820	60,460	60,900	61,480
Missouri	53,210	53,500	55,340	55,070	56,630	56,410	55,760	56,120	57,300
Nebraska	20,360	20,440	20,270	20,510	20,350	20,040	19,520	19,390	19,760
North Dakota	8,840	8,950	8,820	8,560	8,470	8,280	7,900	7,940	7,800
Ohio	118,850	117,190	113,780	112,890	115,630	116,050	113,860	114,340	116,990
South Dakota	10,440	10,440	10,360	10,310	10,520	10,370	10,230	10,010	10,170
Wisconsin	60,880	60,820	61,760	62,060	64,400	64,000	63,730	62,890	63,430
South	864,350	869,400	873,080	877,820	896,030	894,200	900,490	916,590	935,270
Alabama	40,070	39,650	38,770	38,700	38,110	37,900	37,750	38,740	39,630
Arkansas	27,100	26,940	26,960	26,970	27,050	26,570	26,480	26,930	27,650
Delaware	6,440	6,280	6,360	6,440	6,390	6,560	6,430	6,620	6,210
District of Columbia	2,810	2,600	2,530	2,570	2,520	2,570	2,480	2,500	2,750
Florida	107,070	111,080	115,040	118,950	122,340	122,270	123,470	128,140	131,450
Georgia	67,230	67,200	68,350	68,990	70,030	71,200	72,550	74,950	77,950
Kentucky	40,380	39,400	39,290	38,730	38,550	37,420	40,520	38,140	38,670
Louisiana	39,410	39,350	39,140	38,610	39,600	38,960	37,670	37,220	37,220
Maryland	47,570	49,070	49,570	49,920	51,020	51,240	52,650	53,530	55,010
Mississippi	24,840	24,690	23,950	23,720	23,220	22,860	22,430	23,110	23,430
North Carolina	62,690	62,420	63,400	63,630	66,260	67,100	68,000	71,660	74,700
Oklahoma	36,900	38,150	38,280	37,630	37,510	37,100	36,420	36,470	36,650
South Carolina	33,780	33,760	33,040	32,780	33,280	33,060	32,700	33,560	34,020
Tennessee	46,880	47,190	46,810	46,950	48,390	48,550	48,610	50,170	51,760
Texas	196,950	197,150	198,070	198,530	204,950	205,150	206,900	209,070	208,690
Virginia	64,470	64,850	64,790	66,590	68,810	67,790	67,710	68,410	71,660
West Virginia	19,750	19,620	18,740	18,110	18,000	17,900	17,750	17,380	17,810
West	579,290	593,850	600,020	604,880	615,470	618,560	621,830	638,900	649,460
Alaska	6,860	6,920	6,910	7,060	7,150	7,160	6,960	7,110	6,890
Arizona	38,330	39,720	40,640	40,990	42,580	43,310	43,390	45,030	46,070
California	295,080	301,690	304,980	308,800	315,300	316,480	319,970	330,890	335,960
Colorado	38,700	40,020	40,940	41,090	42,150	42,780	42,690	43,020	43,740
Hawaii	11,970	11,910	12,230	12,380	12,250	12,650	12,830	13,220	13,570
Idaho	16,500	16,920	16,790	16,850	16,490	15,920	16,570	17,220	17,230
Montana	11,870	11,860	11,930	11,950	12,110	11,980	11,750	11,630	11,380
Nevada	13,850	14,710	15,420	16,120	17,120	18,150	18,820	19,990	21,260
New Mexico	18,140	18,660	19,070	18,880	18,950	18,830	18,790	18,710	19,010
Oregon	29,700	30,910	31,200	30,940	31,470	31,590	31,280	31,690	32,490
Utah	32,030	32,480	31,280	30,830	30,230	30,050	29,630	30,570	30,660
Washington	59,520	61,250	61,910	62,310	63,090	63,390	63,100	63,910	65,600
Wyoming	6,730	6,800	6,730	6,670	6,570	6,260	6,060	5,910	5,620

NOTE: Historical numbers may differ from those in previous editions. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys. (This table was prepared October 1997.)

Table 52.—Percent change in number of public high school graduates, by region and state, with projections: 1989–90 to 2007–08

Region and state	Actual	Projected		
	1989–90 to 1995–96	1995–96 to 2001–02	2001–02 to 2007–08	1995–96 to 2007–08
United States	-0.6	12.2	7.2	20.2
Northeast	-7.2	11.6	10.4	23.1
Connecticut	-3.5	15.6	15.1	33.1
Maine	-21.7	9.4	-2.6	6.5
Massachusetts	-15.3	13.0	15.2	30.2
New Hampshire	-4.0	22.7	5.6	29.6
New Jersey	-5.6	8.3	16.6	26.3
New York	-6.8	9.6	10.3	20.9
Pennsylvania	-5.3	13.1	5.8	19.6
Rhode Island	1.1	10.8	10.1	21.9
Vermont	0.3	21.6	-1.5	19.7
Midwest	-2.9	9.0	3.9	13.3
Illinois	-1.6	1.6	12.2	13.9
Indiana	-5.0	4.3	3.9	8.3
Iowa	0.7	12.5	-4.5	7.5
Kansas	6.9	13.4	-4.0	8.9
Michigan	-11.3	6.0	6.9	13.3
Minnesota	2.3	18.9	3.0	22.4
Missouri	1.6	11.3	3.5	15.2
Nebraska	2.1	12.4	-2.5	9.6
North Dakota	4.0	10.3	-11.6	-2.4
Ohio	-7.7	7.6	2.8	10.7
South Dakota	12.6	20.2	-1.8	18.1
Wisconsin	1.5	17.0	2.7	20.1
South	-2.3	12.2	7.1	20.2
Alabama	-8.6	4.8	2.2	7.1
Arkansas	-6.4	8.8	2.6	11.6
Delaware	-6.9	23.1	-2.4	20.1
District of Columbia	-19.4	-13.2	8.4	-5.9
Florida	1.8	27.1	14.3	45.2
Georgia	3.7	16.4	14.0	32.8
Kentucky	2.2	1.1	-1.6	-0.5
Louisiana	1.2	7.3	-4.9	2.0
Maryland	2.2	16.7	11.0	29.5
Mississippi	-5.8	1.0	-2.2	-1.2
North Carolina	-9.0	7.5	17.8	26.7
Oklahoma	-6.1	14.5	-4.3	9.6
South Carolina	-2.4	4.3	3.0	7.4
Tennessee	-5.0	6.9	10.6	18.3
Texas	-1.5	16.6	5.4	22.9
Virginia	-2.3	9.4	10.6	21.0
West Virginia	-6.3	-8.5	-4.9	-13.0
West	11.8	16.3	8.2	25.9
Alaska	9.7	16.8	-0.3	16.5
Arizona	6.3	19.2	13.4	35.1
California	13.3	13.9	10.2	25.5
Colorado	0.0	24.2	6.8	32.7
Hawaii	-1.8	20.6	10.9	33.8
Idaho	22.5	14.5	2.6	17.6
Montana	9.7	16.1	-4.7	10.7
Nevada	14.1	42.6	37.9	96.6
New Mexico	4.5	22.5	-0.3	22.2
Oregon	8.4	13.0	4.1	17.7
Utah	39.6	5.7	-2.0	3.6
Washington	9.6	23.0	6.0	30.3
Wyoming	4.2	10.9	-16.5	-7.4

NOTE: Calculations are based on unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys. (This table was prepared October 1997.)

Technical Appendixes

Appendix A

Projection Methodology

The general procedure for *Projections* was to express the variable to be projected as a percent of a "base" variable. These percents were then projected and applied to projections of the "base" variable. For example, the number of 18-year-old college students was expressed as a percent of the 18-year-old population for each year from 1972 through 1995. This percent was then projected through the year 2008 and applied to projections of the 18-year-old population from the Bureau of the Census.

Enrollment projections are based primarily on population projections. Projections of classroom teachers, high school graduates, earned degrees conferred, and expenditures are based primarily on enrollment projections.

Exponential smoothing and multiple linear regression are the two major projection techniques used in this publication. Single exponential smoothing is used when the historical data have a basically horizontal pattern. On the other hand, double exponential smoothing is used when the time series is expected to change linearly with time. In general, exponential smoothing places more weight on recent observations than on earlier ones. The weights for observations decrease exponentially as one moves further into the past. As a result, the older data have less influence on projections. The rate at which the weights of older observations decrease is determined by the smoothing constant selected.

$$P = \alpha X_t + \alpha(1-\alpha)X_{t-1} + \alpha(1-\alpha)^2X_{t-2} + \alpha(1-\alpha)^3X_{t-3} + \ldots$$

Where:

P = projected value

α = smoothing constant ($0 < \alpha < 1$)

X_t = observation for time t

This equation illustrates that the projection is a weighted average based on exponentially decreasing weights. For a high smoothing constant, weights for earlier observations decrease rapidly. For a low smoothing constant, decreases are more moderate. Projections of enrollments and public high school graduates are based on a smoothing constant of $\alpha = 0.4$.

The farther apart the observations are spaced in time, the more likely it is that there are changes in the underlying social, political, and economic structure. Since the observations are on an annual basis, major shifts in the underlying process are more likely in the time span of just a few observations than if the observations were available on a monthly or weekly basis. As a result, the underlying process tends to be unstable from one observation to the next. Another reason for using high smoothing constants for some time series is that most of the observations are fairly accurate, because most observations are population values rather than sample estimates. Therefore, large shifts tend to indicate actual changes in the process rather than noise in the data.

Multiple linear regression is also used in making projections, primarily in the areas of teachers, earned degrees, and expenditures. This technique is used when it is believed that a strong causal relationship exists between the variable being projected (the dependent variable) and independent causal variables. However, this technique is used only when accurate data and reliable projections of the independent variables are available.

The functional form primarily used is the multiplicative model. When used with two independent variables, this model takes the form:

$$Y = aX_1^{b_1}X_2^{b_2}$$

This equation can easily be transformed into the linear form by taking the natural log (ln) of both sides of the equation:

$$\ln Y = \ln(a) + b_1 \ln X_1 + b_2 \ln X_2$$

The multiplicative model has a number of advantages; it is a reasonable way to represent human behavior. Constant elasticities are assumed; this says that a 1 percent change in lnX will lead to a given percent change in lnY. This percent change is equal to b_1. And it lends itself easily to "a priori" analysis because the researcher does not have to worry about units of measurement when specifying relationships. In fact, the multiplicative model is considered the standard in economic problems. For additional information, see *Long-Range Forecasting: From Crystal Ball to Computer* by J. Scott Armstrong (John Wiley and Sons, 1978, pp. 180–181).

Caveats

Because projections are subject to errors from many sources, alternative projections are shown for some statistical series. These alternatives are not statistical confidence intervals, but instead represent judgments made by the authors as to reasonable upper and lower bounds for each projected series. Alternative projections were developed for higher education enrollment, classroom teachers, and expenditures in public elementary and secondary schools and institutions of higher education.

Assumptions

All projections are based on underlying assumptions, and these assumptions determine projection results to a large extent. It is important that users of projections understand the assumptions to determine the acceptability of projected time series for their purposes. In each chapter of appendix A, there are descriptions of the primary assumptions upon which the projections of time series are based.

For most projections, low, middle, and high alternatives are shown. These alternatives reveal the level of uncertainty involved in making projections, and they also point out the sensitivity of projections to the assumptions on which they are based.

Many of the projections in this publication are demographically based. Bureau of the Census middle series projections of the population by age were used. These middle series population projections are based on the 1990 census. The future fertility rate assumption, which determines projections of the number of births, is the key assumption in making population projections. The middle series population projections assume an ultimate complete cohort fertility rate of 2.10 births per woman by the year 2008 and a net immigration of 820,000 per year. This assumption plays a major role in determining population projections for the age groups enrolled in nursery school, kindergarten, and elementary grades. The effects of the fertility rate assumption are more pronounced toward the end of the projection period.

For enrollments in secondary grades and college, the fertility assumption is of no consequence, since all students enrolled at these levels were already born when the population projections were made. For projections of enrollments in elementary schools, only middle series population projections were considered. Projections of high school graduates are based on projections of the percent of grade 12 enrollment that are high school graduates. Projections of associate, bachelor's, doctor's, and first-professional degrees are based on projections of college-age populations and higher education enrollment, by sex, attendance status and level enrolled by student, and by type of institution. Projections of higher education enrollment are based on projections of disposable income per capita and unemployment rates. Many of the projections of classroom teachers and expenditures of public elementary and secondary schools and institutions of higher education are based on projections of disposable income per capita and various revenue measures of state and local governments. Projections of disposable income per capita and unemployment rates were obtained from the WEFA Group. Therefore, the many assumptions made in projecting disposable income per capita and unemployment rates also apply to those projections based on projections of these variables.

A1. Enrollment

National

Enrollment projections were based on projected enrollment rates, by age and sex, which were applied to population projections by age and sex developed by the Bureau of the Census. These enrollment rates were projected by taking into account the most recent trends, as well as the effects of economic conditions and demographic changes on a person's decision to enter college. The enrollment rates were then used in the Education Forecasting Model (EDMOD), which consists of age-specific rates by sex and by enrollment levels (nursery school through college). The model has 4 stages. See figure 71.

Education Forecasting Model

The first stage of EDMOD is an age-specific enrollment model in which enrollment rates are projected and applied to age-specific population projections. This stage, which is used separately for each sex, includes the following categories: (1) elementary grades 1–8, (2) secondary grades 9–12, (3) full-time college enrollment, and (4) part-time college enrollment. Within an enrollment category, where applicable, enrollment rates were projected by individual ages 3 through 24 and for the age groups 25 to 29, 30 to 34, and 35 years and over.

Enrollments by age and age groups from the Bureau of the Census were adjusted to NCES totals to compute enrollment rates for 1972 through 1995. Different assumptions were made to produce low, middle, and high alternative projections of enrollment rates to the year 2008.

Elementary Grades 1–8

Projections of elementary enrollment rates were considered for ages 5 through 18. Elementary enrollments are negligible for the remaining ages. Because most elementary enrollment rates have been close to 100 percent from 1972 to 1995, alternative enrollment rate projections were not computed. The only set of enrollment rate projections computed was based on the assumption that rates will remain constant through the year 2008 (table A1.1). The enrollment data by age were prorated to agree with NCES totals. The Bureau of the Census does not revise enrollment estimates by age, but population estimates are revised regularly.

Secondary Grades 9–12

Projections of secondary enrollment rates were considered for ages 12 through 34. Secondary enrollments are negligible for the remaining ages. Secondary enrollment rates have fluctuated within a narrow range from 1972 to 1995. Therefore, alternative enrollment rate projections were not calculated. The only set of projections computed was based on constant enrollment rates (table A1.2).

College Full-Time and Part-Time Enrollment

Projections of full-time and part-time college enrollments were considered only for ages 16 and over. College enrollment is negligible for earlier ages. Three alternative projections were made using various assumptions. Table A1.3 shows enrollment rates for 1995 and low, middle, and high alternative projected enrollment rates for 2003 and 2008.

Table A1.4 shows the equations used to project enrollment rates for men by attendance status. Table A1.5 shows the equations used to project enrollment rates for women by attendance status.

Enrollment in Public Elementary and Secondary Schools, by Grade Group and Organizational Level

The second stage of EDMOD projects public enrollment in elementary and secondary schools by grade group and by organizational level. Public enrollments by age were based on enrollment rate projections for nursery and kindergarten, grade 1, elementary ungraded and special, secondary ungraded and special, and postgraduate enrollment. Grade retention rate projections were used for grades 2 through 12. Table A1.6 shows the public school enrollment rates and table A1.7 shows the public grade-retention rates for 1995 and projections for 2003 and 2008. The projected rates in tables A1.6 and A1.7 were used to compute the projections of enrollments in elementary and secondary schools, by grade, shown in table 1.

College Enrollment, by Sex, Attendance Status, and Level Enrolled; and by Type and Control of Institution

The third stage of EDMOD projects enrollments in institutions of higher education, by sex, attendance status, and level enrolled by student and by type and control of institution. For each age group, the percent of total enrollment by age, attendance status, level enrolled, and type of institution was projected. These projections for 2003 and 2008 are shown in tables A1.8 and A1.9, along with actual values for 1995. For all projections, it was assumed that there was no enrollment in 2-year institutions at the postbaccalaureate level (graduate and first-professional).

The projected rates in tables A1.8 and A1.9 were then adjusted to agree with the projected age-specific enrollment rates in the first stage of EDMOD. The adjusted rates were then applied to the projected enrollments by age group, sex, and attendance status from the first stage of EDMOD to obtain projections by age group, sex, attendance status, level enrolled, and type of institution.

For each enrollment category—sex, attendance status, level enrolled, and type of institution—public enrollment was projected as a percent of total enrollment. Projections for 2003 and 2008 are shown in table A1.10, along with actual percents for 1995. The projected rates were then applied to the projected enrollments in each enrollment category to obtain projections by control of institution.

For each category by sex, enrollment level, and type and control of institution, graduate enrollment was projected as a percent of postbaccalaureate enrollment. Actual rates for 1995 and projections for 2003 and 2008 are shown in table A1.11. The projected rates in table A1.11 were then applied to projections of postbaccalaureate enrollment to obtain graduate and first-professional enrollment projections by sex, attendance status, and type and control of institution.

Full-Time-Equivalent Enrollment, by Type and Control of Institution and by Level Enrolled

The fourth stage of EDMOD projects full-time-equivalent enrollment, by type and control of institution and by level enrolled. For each enrollment category by level enrolled and by type and control of institution, the full-time-equivalent of part-time enrollment was projected as a percent of part-time enrollment. Actual percents for 1995 and projections for 2003 and 2008 are shown in table A1.12.

These projected percents were applied to projections of enrollment by level enrolled and by type and control of institution from the third stage of EDMOD. The projections were added to projections of full-time enrollment (from the previous stage) to obtain projections of full-time-equivalent enrollment.

Projection Accuracy

An analysis of projection errors from the past 14 editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for lead times of 1, 2, 5, and 10 years out for projections of public school enrollment in grades K–12 were 0.4, 0.6, 1.4, and 2.4 percent, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 0.4 percent of the actual value, on the average. For projections of public school enrollment in grades K–8, the MAPEs for lead times of 1, 2, 5, and 10 years were 0.5, 0.8, 1.8, and 3.6 percent, respectively, while those for projections of public school enrollment in grades 9–12 were 0.7, 0.8, 1.0, and 3.8 percent for the same lead times.

For projections of enrollment in higher education, an analysis of projection errors based on the past eleven editions of *Projections of Education Statistics* indicates that the MAPEs for lead times of 1, 2, and 5 years were 2.1, 3.7, and 6.1 percent, respectively. For the 1-year-out prediction, this means that one would expect the projection to be within 2.1 percent of the actual value, on the average.

Basic Methodology

The notation and equations that follow describe the basic models used to project public elementary and secondary enrollment.

Public Elementary and Secondary Enrollment

Let:

i = Subscript denoting age

j = Subcript denoting grade

t = Subscript denoting time

K_t = Enrollment at the nursery and kindergarten level

G_{jt} = Enrollment in grade j

G_{1t} = Enrollment in grade 1

E_t = Enrollment in elementary special and ungraded programs

S_t = Enrollment in secondary special and ungraded programs

PG_t = Enrollment in postgraduate programs in secondary schools

P_{it} = Population age i

RK_t = Enrollment rate for nursery and kindergarten

RG_{1t} = Enrollment rate for grade 1

RE_t = Enrollment rate for elementary special and ungraded programs

RS_t = Enrollment rate for secondary special and ungraded programs

RPG_t = Enrollment rate for postgraduate programs

EG_t = Total enrollment in elementary grades (K–8)

SG_t = Total enrollment in secondary grades (9–12)

R_{jt} = Retention rate for grade j: the proportion that enrollment in grade j in year t is of enrollment in grade j–1 in year t–1.

Then:

$$EG_t = K_t + E_t + \sum_{j=1}^{8} G_{jt}$$

$$SG_t = S_t + PG_t + \sum_{j=9}^{12} G_{jt}$$

Where:

$K_t \quad = RK_t(P_{5t})$

$G_{jt} \quad = R_{jt}(G_{j-1,t-1})$

$$E_t = RE_t\left(\sum_{i=5}^{13} P_{it}\right)$$

$G_{1t} \quad = RG_{1t}(P_{6t})$

$$S_t = RS_t\left(\sum_{i=14}^{17} P_{it}\right)$$

$PG_t \quad = RPG_t(P_{18t})$

Higher Education Enrollment

For institutions of higher education, projections were computed separately by sex and attendance status of student. The notation and equations are:

Let:

i = Subscript denoting age except:

$i = 25$: ages 25–29

$i = 26$: ages 30–34

$i = 27$: ages 35 and over for enrollment (35–44 for population)

t = Subscript denoting year

E_{it} = Enrollment of students age i

P_{it} = Population age i

R_{it} = Enrollment rate for students age i

T_{it} = Total enrollment for particular subset of students: full-time men, full-time women, part-time men, part-time women

Then:

$$T_{it} = \sum_{i=16}^{27} E_{it}$$

Where:

$E_{it} \quad = R_{it}(P_{it})$

Methodological Tables

The tables in this section give the rates used to calculate projections of enrollments, basic assumptions underlying enrollment projections (table A1.13), and methods used to estimate values for which data are not available (table A1.14).

Private School Enrollment

Projections of private school enrollment were derived in the following manner. From 1970 to 1995, the ratio of private school enrollment to public school enrollment was calculated by grade level. These ratios were projected using single exponential smoothing, yielding a constant value over the projection period. This constant was then applied to projections of public school enrollment by grade level to yield projections of private school enrollment. This method assumes that the future pattern in the trend of private school enrollment will be the same as that in public school enrollment. The reader is cautioned that a number of factors could alter the assumption of a constant ratio over the projection period.

State-Level

This edition contains projected trends in elementary and secondary enrollment by grade level in public schools from 1997 to the year 2008. This is the sixth report on state-level projections for public school elementary and secondary education statistics.

Public school enrollment data from the National Center for Education Statistics' Common Core of Data survey for 1970 to 1995 were used to develop these projections. This survey does not collect data on enrollment for private schools. In addition, population estimates for 1970 to 1996 and population projections for 1997 to 2008 from the U.S. Department of Commerce, Bureau of the Census were used to develop the projections.

Table A1.15 describes the number of years, projection methods, and smoothing constants used to project enrollments in public schools. Also included in table A1.15 is the procedure for choosing the different smoothing constants for the time series models.

The grade retention method and the enrollment rate method were used together to project public elementary and secondary school enrollment by state. The grade retention method starts with 6-year-olds entering first grade and then follows their progress through public elementary and secondary schools. The method requires calculating the ratio of the number of children in one year who "survive" the year and enroll in the next grade the following year. The enrollment rate method expresses the enrollment of a particular age group as a percent of the population for the same age group. The projections produced from these two methods were combined to yield a composite projection of enrollment.

First, projections of enrollment in public elementary and secondary schools by state were developed using primarily the grade retention method. Kindergarten and first grade enrollments are based on projected enrollment rates of 5- and 6-year-olds. These projected enrollment rates are applied to population projections of 5- and 6-year-olds developed by the Bureau of the Census.

Enrollments in grades 2 through 12 are based on projected grade retention rates in each state. These projected rates are then applied to the current enrollment by grade to yield grade-by-grade projections for future years. Enrollment rates of 5- and 6-year-olds and retention rates are projected using single exponential smoothing. Elementary ungraded and special enrollments and secondary ungraded and special enrollments are projected to remain constant at their 1995 levels. To obtain projections of total enrollment, projections of enrollments for the individual grades (kindergarten through 12) and ungraded and special classes were summed.

Second, projections of enrollments in public elementary and secondary schools by state were developed using the enrollment rate method. Enrollment in grades K–8 was expressed as a percent of the 5- to 13-year-old population for 1970 to 1995. Similarly, enrollment in grades 9–12 was expressed as a percent of the 14- to 17-year-old population. These percents were then projected using single exponential smoothing and applied to projections of the 5- to 13-year-old and 14- to 17-year-old populations developed by the Bureau of the Census.

The enrollment rate and grade retention methods assume that past trends in factors affecting public school enrollments will continue over the projection period. This assumption implies that all factors influencing enrollments will display future patterns consistent with past patterns. Therefore, this method has limitations when applied to states with unusual changes in migration rates. This method implicitly includes the net effect of such factors as migration, dropouts, deaths, nonpromotion, and transfers to and from private schools.

Combining Enrollment Projections

Projections of state public school enrollment are based on the grade retention and enrollment rate methods. Empirical research on national models suggests that the enrollment rate method is superior to the grade retention method as the lead time of the projection increases. For longer lead times, the mean absolute percentage errors of the projections of national public school enrollment based on the enrollment rate method are smaller than those based on the grade retention method. It is reasoned that because the projections based on the enrollment rate method depend on population projections, they reflect long-term shifts in state migration patterns as projected by the Bureau of the Census. On the other hand, the projections based on the grade retention method reflect the net effects of state in- and out-migration for the short term.

For a particular year, the projections of enrollments developed using the grade retention and enrollment rate methods were combined using a simple linear combination of the projections as follows:

$$E = bX_1 + (1-b)X_2$$

Where:

E = combined enrollment projection

X_1 = projection based on the grade retention rate

X_2 = projection based on the enrollment rate method

b = weight

Here, b is an adaptive parameter that changes in time to give the most weight for longer lead times to the most successful of the two projection methods, the enrollment rate. Table A1.16 presents the weights used to combine the two methods. The sum of the weights b and 1-b is constrained to sum to 1.

Adjustment to National Projections

The sum of the projections of state enrollments was adjusted to equal the national projections of public school K–12, K–8, and 9–12 enrollments shown in table 1. For details on the methods used to develop the national projections for this statistic, see the section on national enrollment projections in this appendix.

Figure 71

General structure and methodology of the Education Forecasting Model (EDMOD)

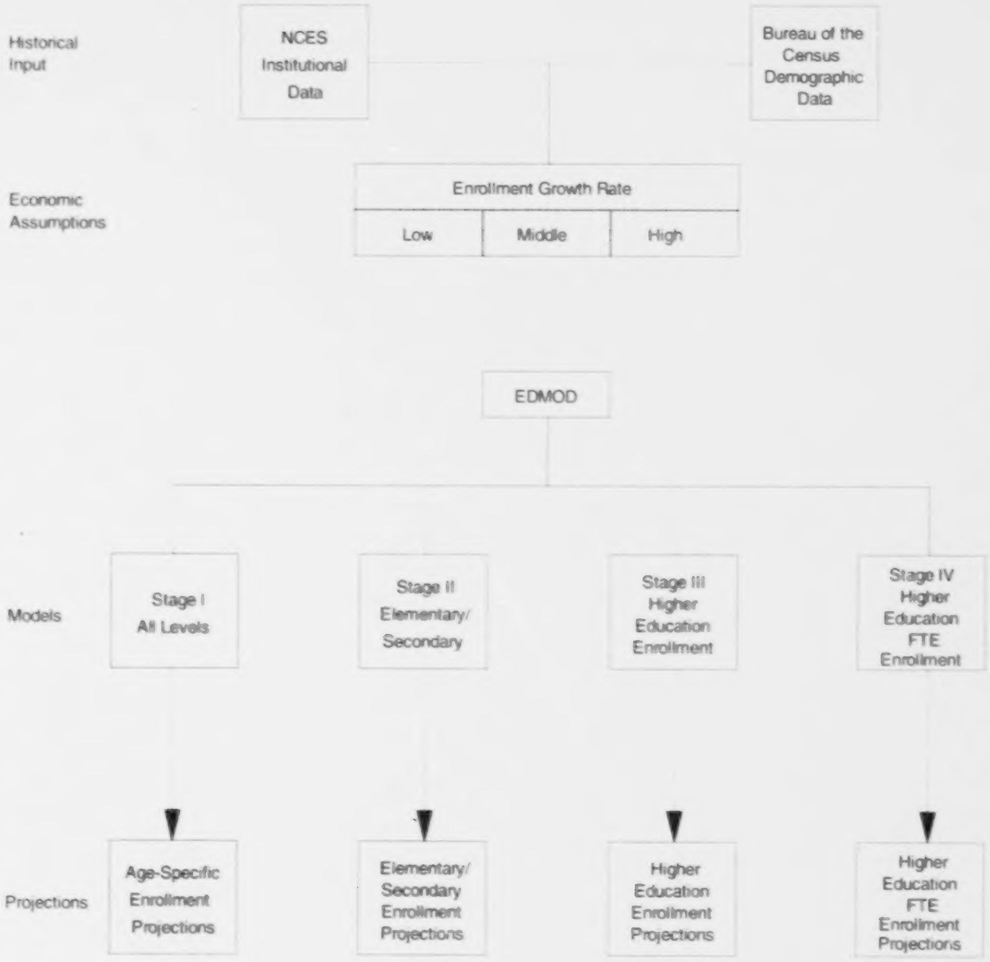

Historical Input
NCES Institutional Data
Bureau of the Census Demographic Data
Economic Assumptions
Enrollment Growth Rate
Low
Middle
High
EDMOD
Models
Stage I All Levels
Stage II Elementary/ Secondary
Stage III Higher Education Enrollment
Stage IV Higher Education FTE Enrollment
Projections
Age-Specific Enrollment Projections
Elementary/ Secondary Enrollment Projections
Higher Education Enrollment Projections
Higher Education FTE Enrollment Projections

Table A1.1.—Elementary enrollment rates, by age and sex

Age	Boys		Girls	
	1995	1997–2008	1995	1997–2008
5	6.9	6.1	6.5	6.6
6	88.6	87.0	91.2	91.0
7	104.5	104.2	104.3	104.5
8	103.0	104.4	104.4	105.9
9	102.0	102.2	104.7	102.7
10	104.3	102.9	103.2	103.0
11	102.9	99.9	104.9	103.5
12	106.2	105.6	104.6	102.8
13	95.4	98.1	95.6	96.3
14	35.6	36.8	23.1	25.6
15	4.9	5.6	3.6	3.7
16	0.6	0.5	0.5	0.4
17	0.3	0.2	0.5	0.2
18	0.1	0.1	0.3	0.3

Table A1.2.—Secondary enrollment rates, by age and sex

Age	Boys		Girls	
	1995	1997–2008	1995	1997–2008
12	0.1	0.3	0.3	0.3
13	3.9	4.1	5.1	6.0
14	60.9	61.1	72.2	72.0
15	89.5	89.3	92.9	92.5
16	91.6	91.2	90.6	92.2
17	84.8	83.9	81.8	81.8
18	29.7	29.9	20.7	19.9
19	6.7	6.4	3.6	4.2
20	1.5	1.5	1.4	1.5
21	0.7	0.7	0.7	0.7
22	0.2	0.4	1.1	0.6
23	0.1	0.3	0.6	0.6
24	0.2	0.4	0.3	0.5
25–29	0.2	0.2	0.4	0.4
30–34	0.2	0.2	0.4	0.4

Table A1.3.—College enrollment rates, by age, sex, and attendance status, with alternative projections

Age, sex, and attendance status	1995	Low alternative		Middle alternative		High alternative	
		2003	2008	2003	2008	2003	2008
Men							
Full-time:							
16	0.4	0.2	0.2	0.2	0.2	0.2	0.2
17	2.5	3.7	3.7	3.7	3.7	3.7	3.7
18	27.8	30.6	30.8	30.6	30.9	30.5	31.0
19	31.6	32.0	32.2	32.0	32.3	32.0	32.4
20	26.2	27.1	27.3	27.1	27.4	27.0	27.4
21	28.2	25.4	25.5	25.3	25.6	25.3	25.7
22	18.3	16.8	16.9	16.8	16.9	16.7	17.0
23	14.1	12.1	12.2	12.1	12.3	12.1	12.3
24	10.1	9.5	9.5	9.5	9.6	9.5	9.6
25-29	4.7	4.2	4.2	4.2	4.2	4.2	4.2
30-34	1.7	1.7	1.7	1.7	1.7	1.7	1.7
35-44	1.1	0.8	0.8	0.8	0.8	0.8	0.8
Part-time:							
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.4	0.7	0.8	0.7	0.8	0.7	0.8
18	6.3	5.0	5.0	5.0	5.1	5.0	5.1
19	7.1	5.4	5.5	5.4	5.5	5.5	5.6
20	7.4	6.9	7.0	7.0	7.1	7.0	7.1
21	8.0	6.6	6.6	6.6	6.7	6.6	6.7
22	8.5	9.0	9.1	9.0	9.2	9.1	9.2
23	6.5	6.7	6.8	6.7	6.9	6.8	6.9
24	4.7	5.3	5.4	5.4	5.5	5.4	5.5
25-29	5.3	5.9	6.0	6.0	6.1	6.0	6.1
30-34	3.4	4.1	4.2	4.1	4.2	4.1	4.3
35-44	3.5	3.7	3.8	3.8	3.8	3.8	3.9
Women							
Full-time:							
16	0.2	0.2	0.2	0.2	0.2	0.2	0.2
17	3.7	4.9	5.4	5.0	5.6	5.0	5.7
18	37.0	42.5	43.6	42.8	44.4	42.9	45.0
19	37.8	42.3	43.3	42.5	44.2	42.7	44.8
20	32.8	35.3	36.2	35.5	37.0	35.6	37.6
21	31.7	31.8	32.7	32.0	33.4	32.1	34.0
22	17.8	16.2	16.7	16.4	17.2	16.5	17.6
23	11.6	12.0	12.5	12.2	12.9	12.2	13.1
24	11.5	10.3	10.6	10.4	10.9	10.5	11.2
25-29	4.8	4.2	4.3	4.2	4.5	4.2	4.6
30-34	2.3	2.3	2.4	2.3	2.5	2.4	2.6
35-44	1.9	1.8	1.9	1.9	2.0	1.9	2.0
Part-time:							
16	0.1	0.2	0.2	0.2	0.2	0.2	0.2
17	1.0	0.6	0.6	0.6	0.6	0.6	0.6
18	7.4	6.1	6.1	6.1	6.1	6.1	6.1
19	7.6	6.1	6.0	6.1	6.0	6.1	6.0
20	9.3	7.4	7.4	7.5	7.5	7.5	7.5
21	8.9	7.1	7.0	7.1	7.1	7.1	7.1
22	13.0	10.2	10.3	10.3	10.4	10.3	10.5
23	8.4	7.8	7.9	7.8	8.0	7.9	8.0
24	8.4	6.8	6.8	6.8	6.9	6.8	6.9
25-29	7.4	6.9	7.1	7.0	7.2	7.0	7.2
30-34	3.9	5.0	5.3	5.0	5.4	5.1	5.4
35-44	6.3	7.4	7.5	7.4	7.6	7.5	7.7

Table A1.4.—Equations for full-time and part-time college enrollment rates of men

Independent variable	Coefficient	Standard error	T-statistic	R^2	F-Statistic
Full-time					
Constant	-2.89	0.11	-25.6	.99	774.9
Dummy18	2.53	0.08	31.7		
Dummy19	2.60	0.09	31.1		
Dummy20	2.42	0.09	26.6		
Dummy21	2.32	0.10	24.2		
Dummy22	1.82	0.12	14.8		
Dummy23	1.41	0.12	12.0		
Dummy24	1.11	0.14	8.0		
Dummy25-29	0.29	0.13	2.2		
Dummy30-34	-0.67	0.10	-7.0		
Dummy35-44	-1.44	0.17	-8.5		
LNURM	0.07	0.03	1.9		
LNPCIMA	0.22	0.03	7.4		
Rho17	0.22	0.23	1.0		
Rho18	0.42	0.21	2.0		
Rho19	0.27	0.21	1.3		
Rho20	0.34	0.21	1.6		
Rho21	0.31	0.22	1.4		
Rho22	0.61	0.18	3.4		
Rho23	0.45	0.21	2.1		
Rho24	0.72	0.16	4.6		
Rho25-29	0.64	0.14	4.6		
Rho30-34	0.33	0.13	2.5		
Rho35-44	0.71	0.12	5.7		
Part-time					
Constant	-4.44	0.08	-55.2	.94	152.4
Dummy18	2.28	0.07	31.6		
Dummy19	2.40	0.09	27.2		
Dummy20	2.59	0.06	44.5		
Dummy21	2.50	0.07	34.3		
Dummy22	2.73	0.08	35.7		
Dummy23	2.35	0.06	39.4		
Dummy24	2.07	0.06	34.4		
Dummy25-29	2.13	0.11	20.2		
Dummy30-34	1.72	0.11	15.9		
Dummy35-44	1.61	0.06	27.3		
LNPCIMA	0.33	0.04	9.1		
Rho17	-0.69	0.18	-3.9		
Rho18	0.22	0.23	0.9		
Rho19	0.53	0.23	2.3		
Rho20	0.35	0.22	1.6		
Rho21	0.59	0.22	2.7		
Rho22	0.19	0.22	0.8		
Rho23	-0.05	0.22	-0.2		
Rho24	0.28	0.21	1.3		
Rho25-29	0.67	0.14	4.9		
Rho30-34	0.78	0.13	6.0		
Rho35-44	0.60	0.11	5.2		

R^2 = Coefficient of determination.
F-Statistic = Obtained statistic for the F value.

Where:

Dummy(age) = 1 for each age and 0 otherwise.
Rho(age) = Autocorrelation coefficient for each age.
LNURM = Log unemployment rate.
LNPCIMA = Log of four-period weighted average of per capita real disposable income.

NOTE: The regression method used to estimate the full-time and part-time equations was pooled least squares with first-order autocorrelation correction. The time period used to estimate the equations is from 1975 to 1995. The number of observations is 231. For additional information, see *The Modern Forecaster* by Hans Levenbach and James P. Cleary (Van Nostrand Reinhold Company Inc., New York, 1984, pp. 354–373).

Table A1.5.—Equations for full-time and part-time college enrollment rates of women

Independent variable	Coefficient	Standard error	T-statistic	R²	F-Statistic
Full-time					
Constant	-1.27	0.40	-3.2	.99	786.4
Dummy18	2.73	0.37	7.4		
Dummy19	2.72	0.36	7.6		
Dummy20	2.51	0.37	6.9		
Dummy21	2.34	0.36	6.5		
Dummy22	1.48	0.36	4.1		
Dummy23	1.10	0.36	3.0		
Dummy24	0.90	0.35	2.6		
Dummy25-29	0.07	0.39	0.2		
Dummy30-34	-0.56	0.37	-1.5		
Dummy35-44	-0.77	0.39	-2.0		
LNURM	0.19	0.07	2.6		
LNPCIMA	1.04	0.05	20.5		
Rho17	0.86	0.14	6.3		
Rho18	0.57	0.19	3.0		
Rho19	-0.21	0.23	-0.9		
Rho20	0.12	0.23	0.6		
Rho21	0.51	0.20	2.5		
Rho22	0.60	0.18	3.4		
Rho23	0.64	0.16	4.0		
Rho24	0.70	0.18	4.0		
Rho25-29	0.63	0.21	3.0		
Rho30-34	0.03	0.23	0.1		
Rho35-44	0.09	0.22	0.4		
Part-time					
Constant	-4.60	0.53	-8.7	.76	28.4
Dummy18	2.97	0.53	5.6		
Dummy19	2.95	0.56	5.3		
Dummy20	3.06	0.55	5.6		
Dummy21	2.93	0.58	5.0		
Dummy22	3.12	0.55	5.7		
Dummy23	2.77	0.54	5.2		
Dummy24	2.58	0.54	4.8		
Dummy25-29	2.55	0.53	4.8		
Dummy30-34	2.26	0.59	3.9		
Dummy35-44	2.58	0.53	4.9		
LNPCIMA	0.41	0.03	11.9		
Rho17	0.35	0.21	1.6		
Rho18	0.17	0.23	0.7		
Rho19	0.60	0.18	3.3		
Rho20	0.34	0.22	1.5		
Rho21	0.65	0.20	3.3		
Rho22	0.45	0.24	1.9		
Rho23	0.44	0.21	2.1		
Rho24	0.68	0.21	3.2		
Rho25-29	0.41	0.21	2.0		
Rho30-34	0.85	0.21	4.0		
Rho35-44	0.13	0.24	0.5		

R^2 = Coefficient of determination.
F-Statistic = Obtained statistic for the F value.

Where:

Dummy(age) = 1 for each age and 0 otherwise.
Rho(age) = Autocorrelation coefficient for each age.
LNURM = Log unemployment rate.
LNPCIMA = Log of four-period weighted average of per capita real disposable income.

NOTE: The regression method used to estimate the full-time and part-time equations was pooled least squares with first-order autocorrelation correction. The time period used to estimate the equations is from 1975 to 1995. The number of observations is 231. For additional information, see *The Modern Forecaster* by Hans Levenbach and James P. Cleary (Van Nostrand Reinhold Company Inc., New York, 1984, pp. 354–373).

Table A1.6.—Enrollment rates in public schools, by grade level

Grade level	Population base age	1995	Projected	
			2003	2008
Kindergarten	5	103.7	103.1	103.1
Grade 1	6	94.9	95.3	95.3
Elementary ungraded and special	5–13	1.5	1.5	1.5
Secondary ungraded and special	14–17	1.6	1.7	1.7
Postgraduate	18	0.3	0.3	0.3

Table A1.7.—Public school grade retention rates

Grade	1995	Projected	
		2003	2008
1 to 2	97.6	97.1	97.1
2 to 3	100.1	100.2	100.2
3 to 4	99.8	99.9	99.9
4 to 5	100.4	100.3	100.3
5 to 6	100.7	100.9	100.9
6 to 7	101.2	101.6	101.6
7 to 8	98.6	98.5	98.5
8 to 9	112.2	111.5	111.5
9 to 10	89.8	90.4	90.4
10 to 11	90.3	90.5	90.5
11 to 12	90.5	90.8	90.8

Table A1.8.—Full-time enrollment, by level enrolled and type of institution, as a percent of total enrollment, for each age and sex classification

Age	Men			Women		
	1995	2003	2008	1995	2003	2008
			Undergraduate, 4-year institutions			
16-17 years old	68.2	67.1	67.1	67.5	71.7	71.7
18-19 years old	64.6	64.9	64.9	71.2	70.1	70.1
20-21 years old	82.5	81.2	81.2	77.6	79.1	79.1
22-24 years old	64.8	63.2	63.2	58.0	59.2	59.2
25-29 years old	42.3	44.3	44.3	45.0	40.0	40.0
30-34 years old	35.1	34.0	34.0	40.0	40.2	40.2
35 years and over	35.4	35.4	35.4	46.4	43.7	43.7
			Undergraduate, 2-year institutions			
16-17 years old	28.9	31.6	31.6	31.2	27.8	27.8
18-19 years old	35.4	34.9	34.9	28.5	29.7	29.7
20-21 years old	15.9	17.6	17.6	20.6	19.8	19.8
22-24 years old	19.7	18.3	18.3	18.6	18.8	18.8
25-29 years old	13.4	15.3	15.3	26.5	27.0	27.0
30-34 years old	25.1	23.8	23.8	35.2	36.6	36.6
35 years and over	23.4	26.5	26.5	32.7	35.4	35.4
			Postbaccalaureate, 4-year institutions			
16-17 years old	2.9	1.3	1.3	1.2	0.5	0.5
18-19 years old	0.0	0.1	0.1	0.3	0.2	0.2
20-21 years old	1.5	1.2	1.2	1.8	1.1	1.1
22-24 years old	15.5	18.6	18.6	23.3	22.0	22.0
25-29 years old	44.3	40.4	40.4	28.6	33.1	33.1
30-34 years old	39.8	42.2	42.2	24.9	23.2	23.2
35 years and over	41.2	38.2	38.2	20.8	20.9	20.9

NOTE: Projections shown for 2003 and 2008 were adjusted to add to 100 percent before computing projections shown in tables 3 through 22.

Table A1.9.—Part-time enrollment, by level enrolled and type of institution, as a percent of total enrollment, for each age and sex classification

Age	Men			Women		
	1995	2003	2008	1995	2003	2008
			Undergraduate, 4-year institutions			
16-17 years old	12.4	8.3	8.3	10.2	15.8	15.8
18-19 years old	19.9	20.9	20.9	24.9	21.3	21.3
20-21 years old	33.1	28.0	28.0	28.8	29.0	29.0
22-24 years old	32.2	31.8	31.8	27.2	29.8	29.8
25-29 years old	24.1	27.6	27.6	25.9	25.3	25.3
30-34 years old	27.3	27.7	27.7	24.6	24.4	24.4
35 years and over	22.4	23.6	23.6	24.5	24.9	24.9
			Undergraduate, 2-year institutions			
16-17 years old	87.6	83.0	83.0	89.8	84.1	84.1
18-19 years old	80.1	79.0	79.0	74.8	78.5	78.5
20-21 years old	64.0	70.7	70.7	69.9	70.2	70.2
22-24 years old	61.7	59.9	59.9	62.6	57.8	57.8
25-29 years old	53.3	52.2	52.2	53.8	54.6	54.6
30-34 years old	52.7	49.3	49.3	54.6	57.1	57.1
35 years and over	49.5	48.7	48.7	51.3	52.1	52.1
			Postbaccalaureate, 4-year institutions			
16-17 years old	0.0	8.7	8.7	0.0	0.0	0.0
18-19 years old	0.0	0.1	0.1	0.3	0.2	0.2
20-21 years old	2.8	1.3	1.3	1.3	0.8	0.8
22-24 years old	6.0	8.3	8.3	10.1	12.5	12.5
25-29 years old	22.6	20.2	20.2	20.3	20.0	20.0
30-34 years old	20.0	23.0	23.0	20.8	18.5	18.5
35 years and over	28.1	27.7	27.7	24.2	23.0	23.0

NOTE: Projections shown for 2003 and 2008 were adjusted to add to 100 percent before computing projections shown in tables 3 through 22.

Table A1.10.—Public college enrollment as a percent of total enrollment, by attendance status, sex, level enrolled, and type of institution

Enrollment category	Men			Women		
	1995	2003	2008	1995	2003	2008
Full-time, undergraduate, 4-year institutions	69.2	69.4	69.4	67.8	68.1	68.1
Part-time, undergraduate, 4-year institutions	72.1	72.3	72.3	67.5	68.3	68.3
Full-time, undergraduate, 2-year institutions	93.2	92.8	92.8	93.0	92.3	92.3
Part-time, undergraduate, 2-year institutions	97.7	97.7	97.7	97.8	97.9	97.9
Full-time, postbaccalaureate, 4-year institutions	54.6	55.1	55.1	57.2	57.9	57.9
Part-time, postbaccalaureate, 4-year institutions	57.8	58.2	58.2	63.4	64.3	64.3

Table A1.11.—Graduate enrollment as a percent of total postbaccalaureate enrollment, by sex, attendance status, and type and control of institution

Enrollment category	Men			Women		
	1995	2003	2008	1995	2003	2008
Full-time, 4-year, public	78.1	78.0	78.0	81.8	81.5	81.5
Part-time, 4-year, public	98.9	98.9	98.9	99.4	99.4	99.4
Full-time, 4-year, private	59.4	59.1	59.1	69.3	68.3	68.3
Part-time, 4-year, private	91.1	91.3	91.3	95.5	95.4	95.4

Table A1.12.—Full-time-equivalent of part-time enrollment as a percent of part-time enrollment, by level enrolled and by type and control of institution

Enrollment category	1995	2003	2008
Public, 4-year, undergraduate	40.4	40.4	40.4
Public, 2-year, undergraduate	33.6	33.6	33.6
Private, 4-year, undergraduate	39.7	39.6	39.6
Private, 2-year, undergraduate	39.7	39.7	39.7
Public, 4-year, graduate	36.2	36.2	36.2
Private, 4-year, graduate	38.2	38.2	38.2
Public, 4-year, first-professional	60.0	60.0	60.0
Private, 4-year, first-professional	54.5	54.5	54.5

Table A1.13.—Enrollment (assumptions)

Variables	Assumptions	Alternatives	Tables
Elementary and Secondary enrollment	Age-specific enrollment rates will remain constant at levels consistent with the most recent rates.	Middle (no alternatives)	1, 2
	Public enrollment rates and public grade retention rates will remain constant at levels consistent with the most recent rates.	Middle (no alternatives)	1, 2
	The percentage of 7th and 8th grade public students enrolled in school organized as secondary schools will remain constant at levels consistent with the most recent rates.	Middle (no alternatives)	2
College enrollment, by age			
Full-time	Age-specific enrollment rates by sex are a function of dummy variables by age, middle alternative log of four-period weighted average of real disposable income per capita, and middle alternative log unemployment rate by age group.	Middle	3-8, 9-16
	Age-specific enrollment rates by sex are a function of dummy variables by age, low alternative log of four-period weighted average of real disposable income per capita, and low alternative log unemployment rate by age group.	Low	3-8, 9-16
	Age-specific enrollment rates by sex are a function of dummy variables by age, high alternative log of four-period weighted average of real disposable income per capita, and high alternative log unemployment rate by age group.	High	3-8, 9-16
Part-time	Age-specific enrollment rates by sex are a function of dummy variables by age and the middle alternative log of four-period weighted average of real disposable income per capita.	Middle	3-8, 9-16
	Age-specific enrollment rates by sex are a function of dummy variables by age and the low alternative log of four-period weighted average of real disposable income per capita.	Low	3-8, 9-16
	Age-specific enrollment rates by sex are a function of dummy variables by age and the high alternative log of four-period weighted average of real disposable income per capita.	High	3-8, 9-16
College enrollment, by sex, attendance status, level enrolled, and type of institution	For each group and for each attendance status separately, percent of total enrollment by sex, level enrolled, and type of institution will follow past trends through 2008. For each age group and attendance status category, the sum of the percentages must equal 100 percent.	High, middle, and low	3-8, 9-16
College enrollment, by control of institution	For each enrollment category, by sex, attendance status, level enrolled, and type of institution, public enrollment as a percent of total enrollment will remain constant at levels consistent with the most recent rates.	High, middle, and low	3-8, 9-16
Graduate enrollment	For each enrollment category, by sex and attendance status of student, and by type and control of institution, graduate enrollment as a percent of postbaccalaureate enrollment will remain constant at levels consistent with the most recent rates.	High, middle, and low	17
Full-time-equivalent of part-time enrollment	For each enrollment category, by type and control of institution and level enrolled, the percent that full-time-equivalent of part-time enrollment is of part-time enrollment will remain constant at levels consistent with the most recent rates.	High, middle, and low	23-28

Table A1.14.—Enrollment (estimation methods)

Variables	Years	Estimation method	Tables
Enrollment in private elementary and secondary schools, by level	1988 1989 1990	Grade-by-grade data for private elementary, secondary, and combined schools were aggregated to estimate private school enrollment by grade level.	1 2
Enrollment in institutions of higher education, by age and attendance status	1988 1993 1996	For each sex, enrollment data from the Bureau of Census by individual ages and by attendance status for 2-year age groups were combined by assuming that within the 2-year age groups, age and attendance status were distributed independently. The resultant enrollment estimates by age and attendance status were then adjusted to NCES enrollment counts by attendance status.	6 7 8

Table A1.15—Number of years, projection methods, and smoothing constants used to project public school enrollments and high school graduates, by state

Projected state variable	Number of years (1970–1995)	Projection method	Smoothing constant	Choice of smoothing constant
Enrollment rates	26	Single exponential smoothing	0.4	Empirical research
Grade retention rates	26	Single exponential smoothing	0.4	Empirical research
Graduates/grade 12 enrollment	26	Single exponential smoothing	0.4	Empirical research

Table A1.16—Weights used to combine the enrollment projections, by projection method and lead time

Projection method	Lead time, in years											
	1	2	3	4	5	6	7	8	9	10	11	12
Grade retention	1	8/9	7/9	6/9	5/9	4/9	3/9	2/9	1/9	0	0	0
Enrollment rate	0	1/9	2/9	3/9	4/9	5/9	6/9	7/9	8/9	1	1	1

A2. High School Graduates

National

Projections of public high school graduates were developed in the following manner. The number of public high school graduates was expressed as a percent of grade 12 enrollment in public schools for 1972 to 1995. This percent was projected using single exponential smoothing and applied to projections of grade 12 enrollment to yield projections of high school graduates in public schools. (The dropout rate is not related to this percent. This percent does not make any assumptions regarding the dropout rate.) The grade 12 enrollment was projected based on grade-by-grade retention rates and population projections developed by the Bureau of the Census. This percent was assumed to remain constant at levels consistent with the most recent rates. This method assumes that past trends in factors affecting graduation will continue over the projection period. However, the projected number of graduates could be impacted by changes in policies affecting graduation requirements.

Projections of private high school graduates were derived in the following manner. From 1970–71 to 1995–96, the ratio of private high school graduates to public school graduates was calculated. These ratios were projected using single exponential smoothing, yielding a constant value over the projection period. This constant value was then applied to projections of public high school graduates to yield projections of private high school graduates. This method assumes that the future pattern of private high school graduates will be the same as that of public high school graduates. The reader should be aware that a number of factors could alter the assumption of a constant ratio over the projection period.

Projection Accuracy

An analysis of projections from models used in the past 14 editions of *Projections of Education Statistics* indicates that the mean absolute percentage errors (MAPEs) for projections of public high school graduates were 0.7 percent for 1 year ahead, 1.2 percent for 2 years ahead, 1.4 percent for 5 years ahead, and 3.8 percent for 10 years ahead. For the 2-year-ahead prediction, this means that one would expect the projection to be within 1.2 percent of the actual value, on the average.

State-Level

This edition contains projections of high school graduates from public schools by state from 1996–97 to 2007–08. Public school graduate data from the National Center for Education Statistics' Common Core of Data survey for 1969–70 to 1995–96 were used to develop these projections. This survey does not collect graduate data for private schools.

Projections of public high school graduates by state were developed in the following manner. For each state, the number of public high school graduates was expressed as a percent of grade 12 enrollment in public schools for 1970 to 1995. This percent was projected using single exponential smoothing and applied to projections of grade 12 enrollment to yield projections of high school graduates in public schools. Projections of grade 12 enrollment were developed based on the grade retention method discussed in section A1, Enrollment. This percent was assumed to remain constant at levels consistent with the most recent rates. This method assumes that past trends in factors affecting public high school graduates will continue over the projection period.

A3. Earned Degrees Conferred

Projections of associate, bachelor's, master's, doctor's, and first-professional degrees by sex were based on demographic models that relate degree awards to college-age populations and college enrollment by level enrolled and attendance status.

Associate Degrees

Associate degree projections by sex were based on undergraduate enrollment by attendance status in 2-year institutions. Results of the regression analysis used to project associate degrees by sex are shown in table A3.1.

Bachelor's Degrees

Bachelor's degree projections by sex were based on the 18- to 24-year-old population and undergraduate enrollment by attendance status in 4-year institutions. Results of the regression analysis used to project bachelor's degrees by sex are shown in table A3.2.

Master's Degrees

Master's degree projections for men assume that the number of degrees will increase by 2,000 each year through 2007–08. Master's degree projections for women assume that the number of degrees will increase by 2,000 each year through 2007–08.

Doctor's Degrees

Doctor's degree projections for men assume that the number of degrees will increase by 100 each year through 1999–2000 and then decrease by 100 each year through 2007–08. Doctor's degree projections for women were based on a time trend variable. The results of the regression analysis used to project doctor's degrees for women are shown in table A3.3.

First-Professional Degrees

First-professional degree projections by sex were based on first-professional enrollment by attendance status in 4-year institutions. Results of the regression analysis used to project first-professional degrees by sex are shown in table A3.4.

Methodological Tables

These tables describe equations used to calculate projections (tables A3.1 through A3.4), and basic assumptions underlying projections (table A3.5).

Projection Accuracy

An analysis of projection errors from similar models used in the past 12 editions of *Projections of Education Statistics* indicates that mean absolute percentage errors (MAPEs) for bachelor's degree projections were 2.1 percent for 1 year out, 3.1 percent for 2 years out, and 7.2 percent for 5 years out. For the 1-year-out prediction, this means that one would expect the projection to be within 2.1 percent of the actual value, on the average. For first-professional degrees, the MAPEs were 2.4, 3.4, and 3.6 percent, respectively. For doctor's degrees, based on the past eleven editions of *Projections of Education Statistics*, the MAPEs were 2.5, 4.2, and 9.9 percent, respectively. MAPEs for master's degrees, based on the past ten editions of *Projections of Education Statistics*, were 2.2, 4.5, and 12.2, respectively. MAPEs for associate degrees, based on the past eight editions of *Projections of Education Statistics*, were 2.1 percent for 1 year out, 3.4 percent for 2 years out, and 6.4 percent for 3 years out.

Table A3.1.—Equations for associate degrees

	Equation	R^2	Durbin-Watson statistic [1]	Estimation technique
Men	ASSOCM = 104,145 + 68.4UGFTM2 + 30.0UGPTM2 (1.5) (1.7)	0.77	1.6	AR1 [2]
Women	ASSOCW = 27,092.1 + 256.7UGFTW2 (16.5)	0.99	1.7	AR1 [3]

R^2 = Coefficient of determination.

[1] For an explanation of the Durbin-Watson statistic, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, pages 251-252.

[2] AR1 indicates an estimation procedure for correcting the problem of first-order autocorrelation. The maximum likelihood procedure of the Regression Analysis of Time Series (RATS) software was used to estimate rho. In this equation, rho is equal to 0.63 with a t-statistic of 2.8. For a general discussion of the problem of autocorrelation, and the method used to forecast in the presence of autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics*, New York: John Wiley and Sons, 1985, pages 315-318.

[3] AR1 equals an estimation procedure for correcting the problem of first-order autocorrelation. Specifically, the maximum likelihood procedure of the statistical program RATS was used to estimate rho. In this equation, rho is equal to 0.67 with a t-statistic of 4.0.

Where:

ASSOCM =Number of associate degrees awarded to men
ASSOCW =Number of associate degrees awarded to women

UGFTM2 =Full-time male undergraduate enrollment in 2-year institutions lagged 2 years
UGPTM2 =Part-time male undergraduate enrollment in 2-year institutions lagged 2 years
UGFTW2 =Full-time female undergraduate enrollment in 2-year institutions lagged 2 years

NOTE: Numbers in parentheses are t-statistics. The time period of observations used in the equations is from 1970–71 to 1994–95.

Table A3.2.—Equations for bachelor's degrees

			Equation	R² [2]	Durbin-Watson statistic [1]	Estimation technique
Men	BACHM	=	251,531 - 11.4P1824M + 172.1UGFT4M (-3.1) (5.2)	0.86	1.7	AR1 [2]
Women	BACHW	=	229,670 - 16.0P1824W + 227.2UGFT4W (-3.3) (15.8)	0.99	1.2	AR1 [3]

R^2 = Coefficient of determination.

[1] For an explanation of the Durbin-Watson statistic, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, pages 251–252.

[2] AR1 indicates an estimation procedure for correcting the problem of first-order autocorrelation. The maximum likelihood procedure of the Regression Analysis of Time Series (RATS) software was used to estimate rho. In this equation, rho is equal to 0.62 with a t-statistic of 3.5. For a general discussion of the problem of autocorrelation, and the method used to forecast in the presence of autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics*, New York: John Wiley and Sons, 1985, pages 315-318.

[3] AR1 equals an estimation procedure for correcting the problem of first-order autocorrelation. The maximum likelihood procedure of the Regression Analysis of Time Series (RATS) software was used to estimate rho. In this equation, rho is equal to 0.73 with a t-statistic of 4.8.

Where:

BACHM =Number of bachelor's degrees awarded to men
BACHW =Number of bachelor's degrees awarded to women
P1824M =Population of 18- to 24-year-old men

P1824W =Population of 18- to 24-year-old women
UGFT4M =Full-time male undergraduate enrollment in 4-year institutions lagged 2 years
UGFT4W =Full-time female undergraduate enrollment in 4-year institutions lagged 3 years

NOTE: Numbers in parentheses are t-statistics. The time period of observations used in the equations is from 1970–71 to 1994–95.

Table A3.3.—Equation for doctor's degrees

			Equation	R^2	Durbin-Watson statistic[1]	Estimation technique
Women	DOCW	=	4,525.5 + 482.6TIME (38.7)	0.98	0.4	OLS[2]

R^2 = Coefficient of determination.

[1] For an explanation of the Durbin-Watson statistic, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, pages 251–252.

[2] OLS equals Ordinary Least Squares.

Where:

DOCW =Number of doctor's degrees awarded to women

TIME =Time trend, 1970–71 equals 1

NOTE: Numbers in parentheses are t-statistics. The time period of observations used in the equations is from 1970–71 to 1994–95.

Table A3.4.—Equations for first-professional degrees

			Equation	R^2	Durbin-Watson statistic [1]	Estimation technique
Men	FPROM	=	5,516.1 + 261.6FPFTM (8.6)	0.91	2.0	AR1 [2]
Women	FPROW	=	-1,682.7 + 269.8FPFTW + 428.4FPPTW (16.0) (2.9)	0.99	1.8	OLS [3]

R^2 = Coefficient of determination.

[1] For an explanation of the Durbin-Watson statistic, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, pages 251–252.

[2] AR1 indicates an estimation procedure for correcting the problem of first-order autocorrelation. The maximum likelihood procedure of the Regression Analysis of Time Series (RATS) software was used to estimate rho. In this equation, rho is equal to 0.51 with a t-statistic of 2.6. For a general discussion of the problem of autocorrelation, and the method used to forecast in the presence of autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics*, New York: John Wiley and Sons, 1985, pages 315-318.

[3] OLS equals Ordinary Least Squares.

Where:

FPROM =Number of first-professional degrees awarded to men
FPROW =Number of first-professional degrees awarded to women
FPFTM =Full-time male first-professional enrollment lagged 2 years
FPFTW =Full-time female first-professional enrollment lagged 1 year
FPPTW =Part-time female first-professional enrollment lagged 2 years

NOTE: Numbers in parentheses are t-statistics. The time period of observations used in the equations is from 1970–71 to 1994–95

Table A3.5.— Earned degrees conferred (assumptions)

Variables	Assumptions	Alternatives	Tables
Associate degrees			
Men	The number of associate degrees awarded to men is a linear function of full-time and part-time undergraduate enrollment in 2-year institutions lagged 2 years. This relationship will continue through 2007–08.	Middle	27
Women	The number of associate degrees awarded to women is a linear function of full-time undergraduate enrollment in 2-year institutions lagged 2 years. This relationship will continue through 2007–08.	Middle	27
Bachelor's degrees			
Men	The number of bachelor's degrees awarded to men is a linear function of full-time undergraduate enrollment in 4-year institutions lagged 2 years and the 18- to 24-year-old population. This relationship will continue through 2007–08.	Middle	28
Women	The number of bachelor's degrees awarded to women is a linear function of full-time undergraduate enrollment in 4-year institutions lagged 3 years and the 18- to 24-year-old population. This relationship will continue through 2007–08.	Middle	28
Master's degrees			
Men	The number of master's degrees awarded to men will increase by 2,000 each year through 2007–08.	Middle	29
Women	The number of master's degrees awarded to women will increase by 2,000 each year through 2007–08.	Middle	29
Doctor's degrees			
Men	The number of doctor's degrees awarded to men will increase by 100 each year through 1999–2000 and then decrease by 100 through 2007–08.	Middle	30
Women	The number of doctor's degrees awarded to women is a linear function of time. This relationship will continue through 2007–08.	Middle	30
First-professional degrees			
Men	The number of first-professional degrees awarded to men is a linear function of full-time first-professional enrollment lagged 2 years. This relationship will continue through 2007–08.	Middle	31
Women	The number of first-professional degrees awarded to women is a linear function of full-time first-professional enrollment lagged 1 year and part-time first-professional enrollment lagged 2 years. This relationship will continue through 2007–08.	Middle	31

A4. Classroom Teachers

Public Classroom Teachers

Numbers of public elementary and secondary classroom teachers were projected using a model similar to that used in *Projections of Education Statistics to 2007*, but the coefficients were re-estimated. The number of public school teachers was projected separately for the elementary and secondary levels. The elementary teachers were modeled as a function of disposable income per capita, local education revenue receipts from state sources per capita, and elementary enrollment. Secondary teachers were modeled as a function of disposable income per capita, education revenue receipts from state sources per capita (lagged 3 years), and secondary enrollment. Both disposable income per capita and local education revenue receipts from state sources were in constant 1986–87 dollars.

The equations in this section should be viewed as forecasting rather than structural equations, as the limitations of time and available data precluded the building of a large-scale, structural teacher model. The particular equations shown were selected on the basis of their statistical properties, such as coefficients of determination (R^2s), the t-statistics of the coefficients, the Durbin-Watson statistic, and residual plots.

The multiple regression technique will yield good forecasting results only if the relationships that existed among the variables in the past continue throughout the projection period.

The public elementary classroom teacher model is:

$$\text{ELTCH} = b_0 + b_1\text{PCI87} + b_2\text{SGRANT} + b_3\text{ELENR}$$

where:

ELTCH is the number of public elementary classroom teachers.

PCI87 is disposable income per capita in 1986–87 dollars;

SGRANT is the level of education revenue receipts from state sources per capita in 1986–87 dollars; and

ELENR is the number of students enrolled in public elementary schools.

Each variable affects the number of teachers in the expected way. As people receive more income, as the state spends more money on education, and as enrollment increases, the number of elementary teachers hired increases.

The public secondary classroom teacher model is:

$$\text{SCTCH} = b_0 + b_1\text{PCI87} + b_2\text{SGRANT3} + b_3\text{SCENR}$$

where:

SCTCH is the number of public secondary classroom teachers;

PCI87 is disposable income per capita in 1986–87 dollars;

SGRANT3 is the level of education revenue receipts from state sources per capita in 1986–87 dollars, lagged 3 years; and

SCENR is the number of students enrolled in public secondary schools.

Each variable affects the number of teachers in the expected way. As people receive more income, as the state spends more money on education, and as enrollment increases, the number of secondary teachers hired increases.

Table A4.1 summarizes the results for the elementary and secondary public teacher models.

Enrollment is by organizational level, not by grade level. Thus, secondary enrollment is not the same as grade 9–12 enrollment because some states count some grade 7 and 8 enrollment as secondary. Therefore, the distribution of the number of teachers is also by organizational level, not by grade span.

Private Classroom Teachers

Projections of private classroom teachers were derived in the following manner. For 1960 to 1994, the ratio of private school teachers to public school teachers was calculated by organizational level. These ratios were projected using single exponential smoothing, yielding a constant value over the projection period. This constant value was then applied to projections of public school teachers by organizational level to yield projections of private school teachers. This method assumes that the future pattern in the trend of private school teachers will be the same as that for public school teachers. The reader is cautioned that a number of factors could alter the assumption of constant ratios over the projection period.

The total number of public school teachers, enrollment by organizational level, and education revenue receipts from state sources used in these projections were from the Common Core of Data (CCD) survey conducted by NCES. The proportion of public school teachers by organizational level was taken from the National Education Association and then applied to the total number of teachers from CCD to produce the number of teachers by organizational level.

Disposable income was obtained from the WEFA Group and population data, used for per capita calculations, were from the Bureau of the Census.

Projection Accuracy

An analysis of projection errors from the past 14 editions of *Projections of Education Statistics* indicated that the mean absolute percentage errors (MAPEs) for projections of classroom teachers in public elementary and secondary schools were 0.9 percent for 1 year out, 1.2 percent for 2 years out, 2.3 percent for 5 years out, and 3.4 percent for 10 years out. For the 2-year-ahead prediction, this means that one would expect the projection to be within 1.2 percent of the actual value, on the average.

Table A4.1.—Equations for public elementary and secondary classroom teachers

			Equation	R^2	Durbin-Watson statistic [1]	Estimation technique
Elementary	ELTCH	=	- 222.9 + 0.039PCI87 + 0.7SGRANT (4.3) (1.6) + 0.03ELENR (4.9)	0.99	1.5	AR1 [2]
Secondary	SCTCH	=	- 171.7 + 0.03PCI87 + 0.5SGRANT3 (5.0) (2.2) + 0.04SCENR (12.9)	0.97	2.0	AR1 [3]

R^2 = Coefficient of determination.

[1] For an explanation of the Durbin-Watson statistic, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, pages 251–252.

[2] AR1 indicates an estimation procedure for correcting the problem of first-order autocorrelation. In this equation, rho is equal to 0.81 with a t-statistic of 7.4. For a general discussion of the problem of autocorrelation, and the method used to forecast in the presence of autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics*, New York: John Wiley and Sons, 1985, pages 315-318.

[3] AR1 equals an estimation procedure for correcting the problem of first-order autocorrelation. The maximum likelihood procedure of the Regression Analysis of Time Series (RATS) software was used to estimate rho. In this equation, rho is equal to 0.40 with a t-statistic of 2.2.

Where:

ELTCH =Number of public elementary classroom teachers
SCTCH =Number of public secondary classroom teachers
PCI87 =Disposable income per capita in 1986–87 dollars
SGRANT =Education revenue receipts from state sources per capita
SGRANT3 =Education revenue receipts from state sources per capita lagged 3 years
ELENR =Number of students enrolled in public elementary schools
SCENR =Number of students enrolled in public secondary schools

NOTE: Numbers in parentheses are t-statistics. The time period of observations used in the equation for elementary teachers is from 1960 to 1994. The time period used in the equation for secondary teachers is from 1965 to 1994.

A5. Expenditures of Public Elementary and Secondary Schools

Econometric techniques were used to produce the projections for current expenditures and average teacher salaries. The equations in this chapter should be viewed as forecasting equations rather than structural equations. The particular equations shown were selected on the basis of their statistical properties, such as coefficients of determination (R^2s), the t-statistics of the variables, the Durbin-Watson statistic, and residual plots. These econometric models will yield good forecasting results only if the relationships that existed among the variables in the past continue throughout the projection period.

The Elementary and Secondary School Current Expenditure Model

There has been a large body of work, both theoretical and empirical, on the demand for local public services such as education.* The elementary and secondary school current expenditure model is based on this work.

The model that is the basis for the elementary and secondary school current expenditure model has been called the median voter model. In brief, the theory states that spending for each public good in the community (in this case, education) reflects the preferences of the "median voter" in the community. This individual is identified as the voter in the community with the median income and median property value. Hence, the amount of spending in the community reflects the price of education facing the voter with the median income, as well as his income and tastes. There are competing models in which the level of spending reflects the choices of others in the community, such as the "bureaucrats." The median voter model was chosen as the basis of the elementary and secondary school current expenditure model as it has been the one most thoroughly studied.

There have been many empirical studies of the demand for education expenditures using the median voter model. In most instances, researchers have used cross-sectional data. The elementary and secondary school current expenditure model was built on the knowledge gained from these cross-sectional studies and was adapted from them for use in a time series study.

In a median voter model, the demand for education expenditures is typically linked to four different types of variables: 1) measures of the income of the median voter; 2) measures of intergovernmental aid for education going indirectly to the median voter; 3) measures of the price to the median voter of providing one more dollar of education expenditures per pupil; and 4) any other variables that may affect one's tastes for education. The elementary and secondary school current expenditure model contains variables reflecting the first three types of variables. The model is:

$$\begin{aligned}\ln(\text{CUREXP}) &= b_0 + b_1\ln(\text{PCI}) + b_2\ln(\text{SGRNT}) \\ &\quad + b_3\ln(\text{ADAPOP})\end{aligned}$$

where:

ln indicates the natural log;

CUREXP equals current expenditures of public elementary and secondary schools per pupil in average daily attendance in constant 1982–84 dollars;

PCI equals disposable income per capita in constant 1992 dollars;

SGRNT equals local governments' education revenue receipts from state sources, per capita, in constant 1982–84 dollars; and

ADAPOP equals the ratio of average daily attendance to the population.

The model was estimated using the AR1 model for correcting for autocorrelation. This was done because the test statistics were significantly better than those from the ordinary least squares (OLS) estimation, and the Durbin-Watson statistic was in the inconclusive region when the model was estimated using OLS. This is the sixth edition of *Projections of Education Statistics* in which this method of estimation, rather than OLS, was used. Ordinary least squares was used in the previous four editions of *Projections of Education Statistics*. The sample period was from 1959–60 to 1994–95.

There are potential problems with using a model for local government education expenditures for the nation as a whole. Two such problems concern the variable SGRNT. First, the amount of money which local governments receive for education from state government varies substantially by state. Second, the formulas used to apportion state moneys for education among local governments vary by state.

Beginning in 1988–89, there was a major change in the survey form used to collect data on current expenditures. This new survey form produces a more complete measure of current expenditures; therefore, the values for current expenditures are not completely comparable to the previously collected numbers. In a crosswalk study, data

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*For a review and discussion of this literature, see Inman, R. P. (1979), "The fiscal performance of local governments: an interpretive review," in *Current Issues in Urban Economics*, edited by P. Mieszkowski and M. Straszheim, Johns Hopkins Press, Baltimore, Maryland.

for a majority of states were also collected for 1986–87 and 1987–88 that were comparable to data from the new survey form. A comparison of these data with those from the old survey form suggests that the use of the new survey form may have increased the national figure for current expenditures by approximately 1.4 percent over what it would have been if the survey form had not been changed. When the model was estimated, all values for current expenditures before 1988–89 were increased by 1.4 percent.

The results for the model are shown in table A5.1. Each variable affects current expenditures in the direction that would be expected. With high levels of income (PCI) or revenue receipts from state source (SGRNT), the level of spending increases. As the number of pupils increases relative to the population (that is, as ADAPOP increases), the level of spending per pupil falls.

From the cross-sectional studies of the demand for education expenditures, we have an estimate of how sensitive current expenditures are to changes in PCI and ADAPOP. We can compare the results from this model with those from the cross-sectional studies. For this model, an increase in PCI of 1 percent, with SGRNT and ADAPOP held constant, would result in an increase of current expenditures per pupil in average daily attendance of approximately 0.55 percent. With PCI and SGRNT held constant, an increase of 1 percent in ADAPOP would result in a decrease in current expenditures per pupil in average daily attendance of approximately 0.33 percent. Both numbers are well within the range of what has been found in cross-sectional studies.

The results from this model are not completely comparable with those from some of the previous editions of *Projections of Education Statistics*. First, as with the previous edition, the population number for each school year is the Bureau of the Census's July 1 population number for the upcoming school year. In earlier editions, each school year's population number was the average of the an economic consulting firm's (either DRI/McGraw-Hill or the WEFA Group) estimated population numbers of each quarter in that school year. Second, there have been changes in the definition of the disposable income.

Projections for total current expenditures were made by multiplying the projections for current expenditures per pupil in average daily attendance by projections for average daily attendance. The projections for total current expenditures were divided by projections for fall enrollment to produce projections of current expenditures per pupil in fall enrollment. Projections were developed in 1982–84 dollars and then placed in 1995–96 dollars using the Consumer Price- Index. Current-dollar projections were produced by multiplying the constant-dollar projections by projections for the Consumer Price Index.

Three alternative sets of projections for current expenditures are presented: the middle alternative projections; the low alternative projections; and the high alternative projections. The alternative sets of projections differ because of varying assumptions about the growth paths for disposable income and revenue receipts from state sources.

The alternative sets of projections for the economic variables including disposable income were developed using three economic scenarios developed by the WEFA Group for use on its Mark 11 Quarterly Model of the U.S. Economy. The Quarterly Model of the U.S Economy is an econometric model of the U.S. economy developed by the WEFA Group for the personal computer. Periodically, the WEFA Group supplies alternative economic scenarios of the economy, including long-term scenarios.

Economic projections from the WEFA Group's June 1997 U.S. Long-Term Core Projections were used in the development of the middle alternative projections. The economy, in this scenario, evolves smoothly, if unspectacularly.

Economic projections from the WEFA Group's June 1997 U.S. Long-Term Macro Low Alternative scenario were used as in the development of the low alternative projections and Economic projections from the WEFA Group's June 1997 U.S. Long-Term Macro High Alternative scenario were used as in the development of the the high alternative projections.

In the middle alternative projections, disposable income per capita rises each year from 1997–98 to 2007–08 at rates between 1.1 percent and 1.9 percent. In the low alternative projections, disposable income per capita ranges between 0.7 percent and 1.7 percent, and in the high alternative projections, disposable income per capita rises at rates between 1.4 percent and 2.3 percent.

The alternative projections for revenue receipts from state sources were produced using the following model:

$$\begin{aligned}\ln(\mathrm{SGRNT}) \quad &= b_0 + b_1\ln(\mathrm{PERTAX1})\\ &+ b_2\ln(\mathrm{ADAPOP})\\ &+ b_3\ln(\mathrm{RCPIANN/RCPIANN1})\end{aligned}$$

where:

ln indicates the natural log;

SGRNT equals local governments' education revenue receipts from state sources, per capita, in constant 1982–84 dollars;

PERTAX1 equals personal taxes and nontax receipts to state and local governments, per capita, in constant 1982–84 dollars lagged one period;

ADAPOP equals the ratio of average daily attendance to the population;

RCPIANN equals the inflation rate measured by the Consumer Price Index; and

RCPIANN1 equals the inflation rate measured by the Consumer Price Index lagged 1 period.

This equation was estimated using the AR1 model for correcting for autocorrelation. The sample period was from

1960–61 to 1994–95. These models are shown in table A5.1.

The values of the coefficients in this model follow expectations. As state governments receive more revenue (higher PERTAX1), they have more money to send to local governments for education. As the enrollment increases relative to the population (higher ADAPOP), so does the amount of aid going to education. Finally, in years with rapidly increasing inflation (higher RCPIANN/RCPIANN1), the real dollar values of revenue receipts from state governments to local governments would fall, other things being equal.

This is the second edition of the *Projections of Education Statistics* that this model has been used to create projections of SGRNT. The model used in *Projections of Education Statistics to 2006* was identical to the model used in this edition except that it contained a second measure of state and local government revenue. In earlier editions, similar models were used except the variables were not in log form.

The three alternative sets of projections for SGRNT were produced using this model. Each is based on a different set of projections for personal taxes and the rate of change in the inflation rate. The middle set of projections was produced using the values for these variables from the middle set of alternative projections. The low set of projections was produced using the values from the low set of alternative projections and the high set of projections was produced using the values from the high set of alternative projections. In the middle set of projections, personal taxes and nontax receipts increase at rates between 0.9 percent and 2.5 percent. In the low set of projections, personal taxes and nontax receipts increase at rates between 0.2 percent and 2.0 percent. In the high set of projections, personal taxes and nontax receipts increase at rates between 1.6 percent and 3.1 percent.

In the middle set of projections, revenue receipts from state sources increase at rates between 0.4 percent and 2.8 percent for the period from 1997–98 to 2007–08. In the low set of projections, they increase at rates between 0.0 percent and 2.8 percent. In the high set of projections, they increase at rates between 0.5 percent and 2.8 percent.

The Elementary and Secondary Teacher Salary Model

Most studies conducted on teacher salaries, like those on current expenditures, have used cross-sectional data. Unlike current expenditures models, however, the models for teacher salaries from these existing cross-sectional studies cannot easily be reformulated for use with time-series data. One problem is that we do not have sufficient information concerning the supply of qualified teachers who are not presently teaching. Hence, the elementary and secondary salary model contains terms that measure the demand for teachers in the economy.

The elementary and secondary teacher salary model is:

$$\begin{aligned}\ln(\mathrm{SALRY}) &= b_0 + b_1\ln(\mathrm{CUREXP}) + b_2\ln(\mathrm{ADAPOP}) \\ &\quad + b_3\ln(\mathrm{ADA1/ADA2})\end{aligned}$$

where:

ln indicates the natural log;

SALRY equals the estimated average annual salary of teachers in public elementary and secondary schools in constant 1982–84 dollars;

CUREXP equals current expenditures of public elementary and secondary schools per pupil in average daily attendance in constant 1982–84 dollars;

ADAPOP equals the ratio of average daily attendance to the population;

ADA1 equals the average daily attendance lagged 1 period; and

ADA2 equals the average daily attendance lagged 2 periods.

The model was estimated using the period from 1959–60 to 1994–95 as a sample period. The AR1 model for correcting for autocorrelation was used as the Durbin-Watson statistic was in the inconclusive region when the model was estimated using OLS.

While there are values for teacher salaries through 1996–97, the model was estimated using the period from 1959–60 to 1994–95 as there are values for current expenditures only through 1994–95. The actual values for teacher salaries for 1995–96 and 1996–97, not those estimated using the model, appear in table 36. The projected values for teacher salaries for the projection period from 1997–98 to 2007–08 also are not the numbers which appear in table 36. Rather, three new sets of projections for teacher salaries were calculated. The value for 1997–98 used in each scenario was calculated by averaging the actual percent change from 1995–96 to 1996–97 and the projected percent change from 1995–96 to 1996–97 from the middle scenario and applying that to the value for 1996–97. The projected percent changes produced by the model were then used to produce projections of teacher salaries from 1998–99 to 2007–08.

Due to the effects on current expenditures caused by the change in survey forms discussed above, the values for current expenditures for 1959–60 to 1987–88 were increased by 1.4 percent when the salary model was estimated. The coefficients of the salary model are different than if the unadjusted numbers for current expenditures had been used and hence the forecasts are different.

The results for this model are also shown in table A5.1. There is no literature for comparing the sizes of the coefficients. However, the direction of the impact each variable has on salaries is as expected: As the level of spending per pupil increases (higher CUREXP), more teachers can be hired, so demand for teachers increases and salaries may increase; as the number of students increases (higher ADAPOP and ADA1/ADA2), demand for teachers increases, so salaries increase.

This model was also used to produce the projections of teacher salaries presented in the *Projections of Education Statistics to 2007* and the *Projections of Education Statistics to 2006*. In seven earlier editions, similar models were used except the variables were not in log form.

As with current expenditures, three different scenarios are presented for teacher salaries. The same projections for ADAPOP and ADA are used for each alternative projection; the sole difference between the projections is in the projection for current expenditures. The middle alternative projection for salaries uses the middle alternative projection for current expenditures. The low alternative projection for salaries uses the low alternative projection for current expenditures. The high alternative projection for salaries uses the high alternative projection for current expenditures.

Current expenditures, average teacher salaries, and the number of teachers are interrelated. Hence, an exercise was conducted to see whether the projections of these three time series were consistent.

The number of teachers was multiplied by the average salary and then divided by current expenditures for every school year from 1982–83 until 2007–08 (using the middle alternative projection for teachers, salaries, and current expenditures). The resulting value shows the portion of current expenditures that is spent on teacher salaries. The portion of current expenditures that goes toward teacher salaries has been in a slow downward trend, with the teacher salary share falling from 41 percent in 1982–83 to 38 percent in 1994–95. With the projected values, the portion of current expenditures that go toward teacher salaries continues to fall slowly, falling to 34 percent in 2007–08.

The results of this exercise indicate that the projections of these three time series are consistent.

Projection Accuracy

This is the tenth consecutive year in which *Projections of Education Statistics* has contained projections of current expenditures and teacher salaries. The actual values of current expenditures and teacher salaries can be compared with the projected values in the previous editions to examine the accuracy of the models.

The projections from the various editions of *Projections of Education Statistics* were placed in 1981–82 dollars using the Consumer Price Indices that appeared in each edition.

The same set of independent variables has been used in the production of the current expenditure projections presented in the last ten editions of the *Projections of Education Statistics* including this one. There have been some differences in the construction of the variables however. First, with the *Projections of Education Statistics to 1997-98*, calendar year data were used for disposable income, the population, and the Consumer Price Index. With the later editions, school year data were used. Second, there have been two revisions in the disposable income time series. Third, there have been two changes to the population variable. In the more recent editions, including this one, the Census's July 1 number for the population has been used. In the earlier editions, an average of the quarterly values was used. Also in the more recent editions, the U.S. Bureau of the Census's population projections have been used. In the earlier editions, the population projections came from an economic consulting firm, either DRI-McGraw/Hill or the WEFA Group.

There has also been a change in the estimation procedure. In the more recent editions, the AR1 model for correcting for autocorrelation was used to estimate the model. In the earlier editions, ordinary least squares was used to estimate the model.

There are several commonly used statistics which can be used to evaluate projections. The values for one of these, the mean absolute percentage error (MAPE), are presented in table A5.2. MAPEs are presented for total current expenditures, current expenditures per pupil in average daily attendance, and teacher salaries.

To calculate the MAPEs presented in table A5.2, the projections of each variable were first grouped by lead time, that is: all the projections of each variable that were a given number of years from the last year in the sample period were grouped together. Next, the percent differences between each projection and its actual value were calculated. Finally, for each variable, the mean of the absolute values of the percent differences were calculated, with a seperate average for each lead time. These means are the MAPEs. Hence, in table A5.2, there are a series of MAPEs for each variable with a different MAPE for each lead time.

For some editions of the *Projections of Education Statistics*, the first projection to be listed did not have a lead time of one year. For example, in *Projections of Education Statistics to 2002*, the first projection to appear was for 1990–91. This projection was calculated using a sample period ending in 1988–89, so it had a lead time of two years. The value that appeared for 1989–1990 was from NCES *Early Estimates*. Only those projections which appeared in an edition of *Projections of Education Statistics* were used in this evaluation.

Some of the differences between the actual values and the projected values for current expenditures and current expenditures per pupil are due to the change in the survey form for current expenditures that took place in 1988–89. The results of the crosswalk study suggest that values for current expenditures as presently collected are approximately 1.4 percent higher than they would have been if no change had been made. If the projections for 1988–89, 1989–90, and 1990–91 which appeared in *Projections of Education Statistics to 1997–98*, *Projections of Education Statistics to 2000*, *Projections of Education Statistics to 2001: An Update*, are increased by 1.4 percent, some MAPEs decrease. MAPEs for current expenditures and current expenditures per pupil after this adjustment has been made can also be found in table A5.2.

Projections for teacher salaries also appeared in the nine most recent editions of *Projections of Education Statistics*.

Beginning with the *Projections of Education Statistics to 2006*, there was one major change in the model used for teacher salary projections; all the variables were placed in log form. With this change in functional form, there was also a change in the way the change in enrollment was measured. In the most recent editions, the change in enrollment was measured by taking the ratio of the average daily attendance lagged one period to the average daily attendance lagged two periods. In the previous three editions of *Projections of Education Statistics*, the change in enrollment was measured by the change from the previous year in average daily attendance lagged one period. In *Projections of Education Statistics to 1997-98*, *Projections of Education Statistics to 2000*, and *Projections of Education Statistics to 2001*, both the change in average daily attendance lagged one period and the change in average daily attendance lagged two periods were included in the model.

There was a major difference between the model used to produce the teacher salary projections in *Projections of Education Statistics to 1997–98* and those used in the later editions including this one: variables in the model were calculated using calendar year data for the population and the Consumer Price Index rather than school year data as in previous editions.

Sources of Past and Projected Data

Numbers from several different sources were used to produce these projections. In some instances, the time series used were made by either combining numbers from various sources or manipulating the available numbers. The sources and the methods of manipulation are described here.

The time series used for current expenditures was compiled from several different sources. For the school years ending in even numbers from 1959–60 to 1975–76, the numbers for current expenditures were taken from various issues of *Statistics of State School Systems*, published by NCES. The numbers for the school years ending in odd numbers during the 1960s were taken from various issues of the National Education Association's *Estimates of School Statistics*. For the school years ending in odd numbers during the 1970s, up to and including 1976–77, the numbers were taken from various issues of *Revenues and Expenditures for Public Elementary and Secondary Education*, published by NCES. For the school years from 1977–78 until 1994–95, the numbers were taken from the NCES Common Core of Data survey and unpublished data.

For 1974–75 and 1976–77, expenditures for summer schools were subtracted from the published figures for current expenditures. The value for 1972–73 was the sum of current expenditures at the local level, expenditures for administration by state boards of education and state departments of education, and expenditures for administration by intermediate administrative units.

Note that although the data from the different sources are similar, they are not entirely consistent. Also, the NCES numbers beginning with 1980–81 are not entirely consistent with the earlier NCES numbers, due to differing treatments of items such as expenditures for administration by state governments and expenditures for community services.

An alternative source for current expenditures would have been the Bureau of the Census's F-33 which offers statistics at the district level. This level of detail was not needed, however.

For most years, the sources for the past values of average daily attendance were identical to the sources for current expenditures. For 1978–79, the number was taken from *Revenues and Expenditures for Public Elementary and Secondary Education*.

Projections for average daily attendance for the period from 1995–96 to 2007–08 were made by multiplying the projections for enrollment by the average value of the ratios of average daily attendance to the enrollment from 1985–86 to 1994–95; this average value was approximately 0.93.

The values for fall enrollment from 1959–60 to 1977–78 were taken from issues of the NCES publication *Statistics of Public Elementary and Secondary Schools*. The 1978–79 value was taken from the *NCES Bulletin* of October 23, 1979, "Selected Public and Private Elementary and Secondary Education Statistics." The values from 1979–80 to 1995–96 were taken from the NCES Common Core of Data survey. The projections for fall enrollment are those presented in Chapter 1.

For 1959–60 to 1994–95, the sources for revenue receipts from state sources were the two NCES publications *Statistics of State School Systems* and *Revenues and Expenditures for Public Elementary and Secondary Education* and the NCES Common Core of Data survey. The methods for producing the alternative projections for revenue receipts from state sources are outlined above.

The estimates for average teacher salaries were taken from various issues of the National Education Association's *Estimates of School Statistics*.

The projected values for disposable income, personal taxes and nontax receipts to state and local governments, and indirect business taxes and tax accruals to state and local governments, were developed using projections developed by the WEFA Group for use on its Mark 11 Quarterly Model of the U.S. Economy. Projected values of the Bureau of Labor Statistics' Consumer Price Index for all urban consumers, which was used for adjusting current expenditures, teacher salaries, revenue receipts from state sources, and the state revenue variables, were also developed using the Quarterly Model of the U.S. Economy.

Both the historic and projected values for the population were supplied by the U.S. Bureau of the Census.

The values of all the variables from the WEFA Group were placed in school-year terms. The school-year numbers were calculated by taking the average of the last two quarters of 1 year and the first two quarters of the next year.

The Elementary and Secondary School Price Index was considered as a replacement for the Consumer Price Index for placing current expenditures and teacher salaries in constant dollars. As projections of the price index are required for placing the forecasts into current dollars, and as there are no projections of the Elementary and Secondary School Price Index, the Consumer Price Index was used. There are other price indexes, such as the implicit price deflator for state and local government purchases, that could have been used instead of the Consumer Price Index. These alternatives would have produced somewhat different projections.

Table A5.1.—Equations for current expenditures per pupil in average daily attendance, estimated average annual salaries of teachers, and education revenue receipts from state sources

Dependent variable	Equation	$\bar{R}^2$	Durbin-Watson statistic	Estimation technique*	Rho
Current expenditures per pupil	$\ln(CUREXP) = -1.285 + 0.551\ln(PCI) + 0.614\ln(SGRNT)$ (-1.17) (2.68) (4.94) $-0.331\ln(ADAPOP)$ (-2.66)	0.997	1.910	AR1	0.390 (2.33)
Estimated average salaries salaries	$\ln(SALRY) = 7.58 + 0.45\ln(CUREXP) + 0.68\ln(ADAPOP)$ (33.1) (11.92) (5.81) $+ 1.21\ln(ADA1/ADA2)$ (3.53)	0.982	1.514	AR1	0.827 (7.41)
Education revenue receipts from state sources per capita	$\ln(SGRNT) = 2.4 + 0.70\ln(PERTAX1) + 0.47\ln(ADAPOP)$ (21.2) (29.7) (4.76) $-0.03\ln(RCPIANN/RCPIANN1)$ (-1.70)	0.991	1.951	AR1	.388 (2.29)

*AR1 is an estimation procedure for correcting the problem of first-order autocorrelation. For a general discussion of the problem of autocorrelation, and the methods to correct it, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, chapter 8. For a discussion of the method used to forecast in the presence of autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics*, New York: John Wiley and Sons, 1985, pages 315–318.

Where:

ln indicates the natural log
CUREXP =Current expenditures of public elementary and secondary schools per pupil in average daily attendance in constant 1982–84 dollars
SALRY =Estimated average annual salary of teachers in public elementary and secondary schools in constant 1982–84 dollars
SGRNT =Local governments' education revenue receipts from state sources, per capita, in constant 1982–84 dollars
PCI =Disposable income per capita in constant 1992 dollars
ADAPOP =Ratio of average daily attendance to the population
PERTAX1 =Personal taxes and nontax receipts to state and local governments, per capita, in constant 1982–84 dollars lagged one period
RCPIANN =Inflation rate measured by the Consumer Price Index
RCPIANN1 =Inflation rate measured by the Consumer Price Index lagged 1 period
ADA1 =Average daily attendance lagged 1 period
ADA2 =Average daily attendance lagged 2 periods

NOTES: The time period of observations used in the equation for revenue receipts from state sources is from 1960–61 to 1994–95. The time period of observations used in the equations for current expenditures and teacher salaries is from 1959–60 to 1994–95. Numbers in parentheses are t-statistics. $\bar{R}^2$ = Coefficient of determination, adjusted for degrees of freedom. For an explanation of the Durbin-Watson statistic, see J. Johnston, (1972), pages 251–252. Rho is the first order autocorrelation coefficient estimated when AR1 is used. (This table was prepared October 1997.)

Table A5.2.—Mean absolute percentage errors by lead time for current expenditures in public elementary and secondary schools, current expenditures per pupil in average daily attendance (ADA) in public elementary and secondary schools, and estimated average annual teacher salaries of classroom teachers in public elementary and secondary schools, all in constant dollars

Lead Time (years)	Mean absolute percentage errors				
	Current Expenditures		Current Expenditures - Adjusted [1]		Estimated average annual salaries
	Total	Per pupil in ADA	Total	Per pupil in ADA	
One	1.2%	1.0%	0.8%	0.7%	1.3%
Two	2.2%	1.5%	1.7%	1.1%	1.6%
Three	1.7%	1.5%	1.4%	1.3%	2.3%
Four	1.9%	2.0%	1.7%	2.2%	4.1%
Five	2.5%	3.2%	3.1%	4.1%	6.6%
Six	2.4%	3.7%	3.4%	4.8%	9.0%
Seven	1.9%	3.4%	3.3%	4.8%	11.5%
Eight	4.0%	5.0%	5.5%	6.5%	11.4%
Nine [2]	—	—	—	—	11.6%
Ten [2]	—	—	—	—	12.8%

[1] Values for current expenditures and current fund expenditures per pupil in average daily attendance from *Projections of Education Statistics to 1997–98*, *Projections of Education Statistics to 2000*, and *Projections of Education Statistics to 2001: An Update* were increased by 1.4 percent to compensate for the change in the survey for current expenditures which occurred in 1988–89.

[2] Actual values of current expenditures were not available to calculate mean absolute percentage errors of lead times of nine and ten years.

SOURCES: Various issues of *Projections of Education Statistics*. (This table was prepared October 1997.)

A6. Expenditures of Institutions of Higher Education

Six higher education expenditure models were estimated: one current-fund expenditure model and one educational and general expenditure model for each of three types of higher education institutions—public 4-year; public 2-year; and private 4-year. In each case, econometric techniques were used. Due to the lack of a consistent database for private 2-year schools, the last actual values, for 1994–95, were used as constants. These values for private 2-year schools were used in the tables for expenditures in all institutions (tables 37 and 38.)

The higher education econometric models were selected on the basis of their statistical properties, such as the coefficients of determination (R^2), the t-statistics of the variables, the Durbin-Watson statistic, and residual plots. These econometric models will yield good forecasting results only if the relationships that existed among the variables in the past continue throughout the projection period.

Higher Education Institutions Expenditure Models

Similar econometric models were developed for the three types of institutions. While there has been significantly less work by economists studying the factors influencing higher education finance data than those influencing elementary and secondary finance data, there have been some valuable studies. This body of work was used in building these models.

In Chapter 7, some of the factors that are historically associated with the level of expenditures are discussed. These are: (1) the state of the economy; (2) the inflation rate; and (3) enrollments. Each of the models presented here contains variables measuring at least two of these three factors. Either disposable income per capita or revenues of state and local governments per capita was used to measure the state of the economy. Two measures of the inflation rate were considered: the rate of change in the inflation rate; or a dummy for years with inflation rates greater than 8 percent. In each equation, an enrollment variable was included.

For each dependent variable, a number of alternative specifications were examined. In each case, the choice of the final specification was made after considering such factors as the coefficients of determination, the t-statistics of the variables, residual plots, and ex-post mean absolute percent errors. The final specification of each model has the dependent variables and some of the independent variables as first differences.

The Public 4-Year Institutions Expenditure Models

The public 4-year institutions current-fund expenditure model is:

$$\begin{aligned} \mathrm{DPUTCUR4} &= b_0 + b_1\mathrm{DSTREV1} + b_2\mathrm{DPUFTE4} \\ &\quad + b_3\mathrm{DUMMY} \end{aligned}$$

where:

DPUTCUR4 is the change from the previous year in current-fund expenditures per student in full-time-equivalent (FTE) enrollment in public 4-year institutions in constant 1982–84 dollars;

DSTREV1 is the change from the previous year in the sum of personal tax and nontax receipts to state and local governments and indirect business taxes and tax accruals, excluding property taxes, to state and local governments, per capita, in constant 1982–84 dollars lagged one year;

DPUFTE4 is the change from the previous year in FTE enrollment in public 4-year institutions in thousands of students; and

DUMMY is a dummy variable equaling 1 when the inflation rate is greater than 8 percent and 0 otherwise.

This model and the other econometric models were estimated using a sample period from 1968–69 to 1994–95. Ordinary least squares was used to estimate all the public institution models.

The results for this model are in table A6.1. Each variable affects current-fund expenditures in a logical fashion. The more revenues that state and local governments receive, the more expenditures they can make for public institutions of higher education. In a year with high inflation (DUMMY equals 1), current-fund expenditures in constant dollars are lower than they would have been otherwise. The more students in public 4-year institutions, the less money to be spent per student.

Three projections were produced: the middle alternative set of projections, the low alternative set of projections, and the high alternative set of projections. Each set of projections was based on a different set of assumptions for the revenues of state and local governments per capita. The projections for revenues of state and local governments per capita and the other economic variables used to produce the higher education expenditure projections were produced using the WEFA Group's Mark 11 Quarterly Model of the U.S. Economy. The development of these alternative sets of projections is discussed in Appendix A5.

In the middle set of alternative projections, the revenues of state and local governments per capita increase at rates between 1.2 percent and 2.2 percent. In the low set of alternative projections, the revenues of state and local governments per capita increase at rates between 0.5 percent and 1.8 percent. In the high set of alternative projections, the revenues of state and local governments per capita increase at rates between 1.7 percent and 2.7 percent.

Projections for total current-fund expenditures were made by multiplying the projections for current-fund expenditures per student in FTE enrollment by projections for FTE enrollment. Projections were developed in 1982–84 dollars and then placed in 1995–96 dollars using projections for the Consumer Price Index. Current dollar projections were produced by multiplying the constant dollar projections by projections for the Consumer Price Index. All the higher education total expenditure projections, all expenditure projections in 1995–96 dollars, and all the current dollar projections were calculated in similar fashion.

A model for educational and general expenditures of public 4-year institutions was developed using the same variables as the current-fund expenditure model. The model is:

$$\text{DPUED4} = b_0 + b_1\text{DSTREV1} + b_2\text{DPUFTE4} + b_3\text{DUMMY}$$

where:

DPUED4 is the change from the previous year in educational and general expenditures per student in FTE enrollment in public 4-year institutions in constant 1982–84 dollars.

This model is also shown in table A6.1.

As with current-fund expenditures, each variable affects expenditures in the expected way.

The Public 2-Year Institutions Expenditure Models

The public 2-year institutions current-fund expenditure model has a form similar to the public 4-year institutions current-fund expenditure model except that the public 2-year institutions model does not contain any inflation variables. The model is:

$$\text{DPUTCUR2} = b_0 + b_1\text{DSTREV1} + b_2\text{DPUFTE2}$$

where:

DPUTCUR2 is the change from the previous year in current-fund expenditures per student in FTE enrollment in public 2-year institutions in constant 1982–84 dollars; and

DPUFTE2 is the change from the previous year in FTE enrollment in public 2-year institutions in thousands of students.

The results for this model are in table A6.1. Again, DSTREV1 has the expected positive effect on expenditures and the FTE enrollment variable has the expected negative impact.

The public 2-year institutions educational and general expenditure model is virtually identical to its current-fund expenditures counterpart. It is:

$$\text{DPUED2} = b_0 + b_1\text{DSTREV1} + b_2\text{DPUFTE2}$$

where:

DPUED2 is the change from the previous year in educational and general expenditures per student in FTE enrollment in public 2-year institutions in constant 1982–84 dollars.

The results of this model appear in table A6.1.

The Private 4-Year Institutions Expenditure Models

The private 4-year institutions current-fund expenditure model is:

$$\text{DPRTCUR4} = b_0 + b_1\text{DPCI} + b_2\text{DPRFTE4} + b_3\text{ININCR}$$

where:

DPRTCUR4 is the change from the previous year in current-fund expenditures per student in FTE enrollment in private 4-year institutions in constant 1982–84 dollars;

DPCI is the change from the previous year in disposable income per capita in 1992 dollars;

DPRFTE4 is the change from the previous year in FTE enrollment in private 4-year institutions to the population in thousands; and

ININCR is the rate of change in the inflation rate measured by the Consumer Price Index.

The model was estimated using the AR1 method for correcting for autocorrelation.

The three alternative sets of projections for current-fund expenditures were produced using varying assumptions about the growth paths for disposable income and the rate of change in the inflation rate measured by the Consumer Price Index. These disposable income and inflation rate projections were also developed using the WEFA Group's Mark 11 Quarterly Model of the U.S. Economy.

In the middle set of projections, disposable income per capita rises each year from 1997–98 to 2007–08 at rates between 1.1 percent and 1.9 percent. In the low set of projections, disposable income per capita increases at rates between 0.7 percent and 1.7 percent. In the high set of projections, disposable income per capita increases at rates between 1.4 percent and 2.3 percent.

In the middle set of projections, the inflation rate varies between 2.5 percent and 3.3 percent. In low set of projections, it varies between 2.5 percent and 3.7 percent, and in the high set of projections, it varies between 2.3 percent and 3.0 percent.

The private 4-year institutions educational and general expenditure model is:

$$\begin{aligned} DPRIED4 &= b_0 + b_1DPCI + b_2DPRFTE4 \\ &+ b_3ININCR \end{aligned}$$

where:

DPRIED4 is the change in educational and general expenditures per student in FTE enrollment in private 4-year institutions in constant 1982–84 dollars.

The results of this model appear in table A6.1.

The Private 2-Year Institutions Expenditure Models

Unlike the other higher education variables, econometric methods were not used for either private 2-year current-fund expenditures or private 2-year educational and general expenditures. This was due to a change in the sample universe for private 2-year institutions. The period for which the private 2-year universe is relatively consistent, from 1982–83 to 1994–95, has only thirteen observations. This is too short a period for econometric techniques, so another means of projecting private 2-year institution expenditures was required. Hence, both current-fund expenditures per student and educational and general expenditures per student were assumed to stay constant at the last year for which there are data, 1994–95. These values for private 2-year schools were used in the tables for expenditures in all institutions (tables 37 and 38.)

Projection Accuracy

This is the seventh time in the past ten years that *Projections of Education Statistics* has contained projections of higher education expenditure data. The other six editions were the *Projections of Education Statistics to 2007*, *Projections of Education Statistics to 2006*, *Projections of Education Statistics to 2005*, *Projections of Education Statistics to 2004*, *Projections of Education Statistics to 2003* and *Projections of Education Statistics to 2000*. The projections that appeared in the five most recent editions of *Projections of Education Statistics* were developed using the same methodology as that presented here. Those that appeared in *Projections of Education Statistics to 2000* were produced using different models.

There are several commonly used statistics which can be used to evaluate projections. The values for one of these, the mean absolute percentage error (MAPE), are presented in table A6.2. MAPEs are presented for current-fund expenditures and for educational and general expenditures by several different breakdowns. Two alternative sets of MAPEs are presented: with one set, the projections from the last five editions of the *Projections of Education Statistics* were used in the calculations; with the other, the projections from the *Projections of Education Statistics to 2000* were also included.

To calculate the MAPEs presented in table A6.2, the projections of each variable were first grouped by lead time, that is: all the projections of each variable that were a given number of years from the last year in the sample period were grouped together. Next, the percent differences between each projection and its actual value were calculated. Finally, for each variable, the mean of the absolute values of the percent differences were calculated, with a seperate average for each lead time. These means are the MAPEs. Hence, in table A6.2, there are a series of MAPEs for each variable with a different MAPE for each lead time.

Sources of Data

The current-fund expenditure data and the educational and general expenditure data are from the "Financial Statistics of Institutions of Higher Education" and the Integrated Postsecondary Education Data System (IPEDS) "Finance" surveys of the National Center for Education Statistics (NCES). One manipulation of the educational and general expenditures numbers was required. From 1968–69 to 1973–74, student-aid expenditures were a separate component of current-fund expenditures. From 1974–75 on, scholarships and fellowships have been a component of educational and general expenditures. Hence, for the period 1968–69 to 1973–74, student aid was added to the published numbers for educational and general expenditures.

The full-time-equivalent (FTE) enrollment data are from the "Fall Enrollment in Colleges and Universities" surveys of NCES. The FTE enrollment figures for 1968–69, 1969–70, and 1970–71 were estimated using part-time and full-time enrollment data. Full-time-equivalent enrollment was derived by adding one-third of the part-time students to the number of full-time students for those three years.

The projected values for disposable income and the revenues of state and local governments per capita were developed using the WEFA Group's Mark 11 Quarterly Model of the U.S. Economy. Projected values of the Bureau of Labor Statistics' Consumer Price Index for all urban consumers, which were used for adjusting the higher education finance data, and the implicit price deflator for personal consumption expenditures, which was used for adjusting disposable income per capita, were also developed using the Quarterly Model of the U.S. Economy. The

WEFA Group supplied the historic values for these variables.

Both the historic and projected values for the population were supplied by the U.S. Bureau of the Census.

The Higher Education Price Index was considered as a replacement for the Consumer Price Index for placing the higher education expenditures in constant dollars. As projections of the price index are required for placing the forecasts into current dollars, and as there are no projections of the Higher Education Price Index, the Consumer Price Index was used.

The values of all of the variables from The WEFA Group were placed in academic-year terms. The data were available in quarterly format so the academic-year numbers were calculated by taking the average of the last 2 quarters of 1 year with the first 2 of the next year.

Table A6.1.—Equations for current-fund expenditures per student in full-time-equivalent enrollment and educational and general expenditures per student in full-time-equivalent enrollment in public 4-year institutions, public 2-year institutions, and private 4-year institutions

Dependent variable		Equation	$\bar{R}^2$	Durbin-Watson statistic	Estimation technique*	Rho
Current-fund expenditures per student in public 4-year institutions	DPUTCUR4	= 285 + 2.24DSTREV1 - 0.002DPUFTE4 (6.09) (2.32) (-6.29) - 235DUMMY (-3.65)	0.712	1.93	OLS	
Current-fund expenditures per student in public 2-year institutions	DPUTCUR2	= 26.1 + 3.31DSTREV1 - 0.001DPUFTE2 (0.91) (4.90) (-4.70)	0.735	2.06	OLS	
Current-fund expenditures per student in private 4-year institutions	DPRTCUR4	= 473 + 0.30DPCI - 0.009DPRFTE4 (3.92) (2.18) (-6.30) - 485.5ININCR (-5.83)	0.771	1.92	AR1	0.73 (5.14)
Educational and general expenditures per student in public 4-year institutions	DPUED4	= 230 + 2.02DSTREV1 - 0.002DPUFTE4 (4.79) (2.05) (-6.37) - 220DUMMY (-3.34)	0.704	1.67	OLS	
Educational and general expenditures per student in public 2-year institutions	DPUED2	= 18.9 + 3.42DSTREV1 - 0.0006DPUFTE2 (0.60) (4.62) (-3.5)	0.666	1.76	OLS	
Educational and general expenditures per student in private 4-year institutions	DPRIED4	= 204.7 + 0.33DPCI - 0.004DPRFTE4 (1.68) (1.58) (-2.09) - 431.9ININCR (-3.4)	0.475	2.30	AR1	0.55 (2.93)

*OLS = Ordinary Least Squares. AR1 is an estimation procedure for correcting the problem of first-order autocorrelation. For a general discussion of the problem of autocorrelation, and the methods to correct it, see J. Johnston, *Econometric Methods*, New York: McGraw-Hill, 1972, chapter 8. For a discussion of the method used to forecast in the presence of autocorrelation, see G. Judge, W. Hill, R. Griffiths, H. Lutkepohl, and T. Lee, *The Theory and Practice of Econometrics*, New York: John Wiley and Sons, 1985, pages 315–318.

Where:

DPUTCUR4 =Change from the previous year in current-fund expenditures per student in full-time-equivalent (FTE) enrollment in public 4-year institutions in constant 1982–84 dollars
DPUTCUR2 =Change from the previous year in current-fund expenditures per student in FTE enrollment in public 2-year institutions in constant 1982–84 dollars
DPRTCUR4 =Change from the previous year in current-fund expenditures per student in FTE enrollment in private 4-year institutions in constant 1982–84 dollars
DPUED4 =Change from the previous year in educational and general expenditures per student in FTE enrollment in public 4-year institutions in constant 1982–84 dollars
DPUED2 =Change from the previous year in educational and general expenditures per student in FTE enrollment in public 2-year institutions in constant 1982–84 dollars
DPRIED4 =Change in educational and general expenditures per student in FTE enrollment in private 4-year institutions in constant 1982–84 dollars
DSTREV1 =Change from the previous year in the sum of personal tax and nontax receipts to state and local governments and indirect business taxes and tax accruals, excluding property taxes, to state and local governments, per capita, in constant 1982–84 dollars lagged one year
DPCI =Change from the previous year in disposable income per capita in 1992 dollars
DPUFTE4 =Change from the previous year in FTE enrollment in public 4-year institutions in thousands of students
DPUFTE2 =Change from the previous year in FTE enrollment in public 2-year institutions in thousands of students
DPRFTE4 =Change from the previous year in FTE enrollment in private 4-year institutions to the population in thousands
DUMMY =Dummy variable equaling 1 when the inflation rate is greater than 8 percent and 0 otherwise
ININCR =Rate of change in the inflation rate measured by the Consumer Price Index

NOTES: The time period of observations used in the equations is from 1968–69 to 1994–95. Numbers in parentheses are t-statistics. $\bar{R}^2$ = Coefficient of determination, adjusted for degrees of freedom. For an explanation of the Durbin-Watson statistic, see J. Johnston, (1972), pages 251–252. Rho is the first order autocorrelation coefficient estimated when AR1 is used. (This table was prepared October 1997.)

Table A6.2.—Mean absolute percentage errors by lead time for current-fund expenditures and educational and general expenditures in constant dollars in public and private institutions of higher education by type

Lead Time (years)	Mean absolute percentage errors								
	Total	Public					Private		
		Total	4-year		2-year		Total	4-year	
			Total	Per student in FTE	Total	Per student in FTE		Total	Per student in FTE
Current-fund expenditures									
Last five editions [1]									
One	0.3%	0.3%	0.5%	0.6%	1.5%	1.4%	0.4%	0.5%	0.5%
Two	0.6%	0.6%	0.7%	1.4%	4.7%	2.6%	1.1%	1.2%	2.5%
Three	0.8%	0.6%	1.5%	2.6%	5.0%	3.9%	1.3%	1.4%	2.2%
Four	0.8%	0.9%	2.2%	2.5%	5.1%	2.2%	0.7%	-0.8%	0.1%
Five	1.4%	1.5%	2.7%	0.2%	3.8%	2.3%	1.2%	1.3%	3.4%
Six editions [2]									
One	0.8%	0.7%	1.0%	1.1%	1.6%	1.5%	1.2%	1.2%	1.2%
Two	1.2%	0.7%	1.0%	1.6%	4.8%	3.1%	2.5%	2.5%	3.5%
Three	1.2%	0.5%	1.4%	2.3%	4.9%	4.5%	2.6%	2.7%	2.8%
Four	2.4%	1.7%	2.9%	2.1%	3.7%	3.8%	3.5%	3.6%	2.6%
Five	4.0%	2.9%	3.9%	0.4%	2.1%	4.8%	5.7%	5.8%	5.6%
Six	6.8%	4.4%	5.2%	0.7%	0.7%	16.9%	10.9%	11.0%	5.9%
Seven	6.8%	4.9%	6.1%	1.0%	0.5%	21.4%	10.0%	9.8%	1.7%
Eight	7.1%	5.3%	6.7%	1.0%	0.7%	19.7%	10.0%	9.7%	0.6%
Nine	7.6%	6.3%	8.1%	0.0%	2.0%	21.2%	9.9%	9.7%	2.8%
Educational and general expenditures									
Last five editions [1]									
One	0.3%	0.4%	0.8%	0.9%	1.7%	1.5%	0.8%	0.9%	0.9%
Two	0.6%	0.5%	1.1%	1.6%	5.3%	3.0%	1.6%	1.7%	1.6%
Three	0.5%	0.2%	1.7%	2.5%	5.7%	4.2%	1.7%	1.7%	2.9%
Four	0.4%	1.2%	3.0%	2.4%	5.7%	2.8%	3.3%	3.3%	4.2%
Five	0.3%	2.7%	4.5%	2.0%	4.2%	1.9%	5.8%	5.9%	3.9%
Six editions [2]									
One	0.8%	0.7%	1.2%	1.3%	1.8%	1.7%	1.8%	1.8%	1.8%
Two	1.1%	0.5%	1.3%	1.7%	5.3%	3.5%	3.1%	3.1%	3.0%
Three	1.0%	0.2%	1.5%	2.2%	5.4%	4.8%	3.2%	3.1%	3.5%
Four	2.3%	1.9%	3.5%	2.1%	4.1%	4.2%	5.7%	5.8%	5.8%
Five	3.4%	3.2%	4.5%	1.1%	2.2%	4.7%	8.9%	9.0%	6.7%
Six	6.3%	2.7%	3.4%	2.7%	0.3%	17.4%	12.8%	12.8%	7.8%
Seven	6.1%	2.9%	3.9%	3.4%	0.7%	21.6%	11.8%	11.6%	3.6%
Eight	6.4%	3.1%	4.1%	3.7%	0.7%	19.7%	12.4%	12.1%	2.0%
Nine	7.1%	3.9%	5.4%	2.9%	2.0%	21.2%	12.8%	12.7%	0.5%

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[1] *Projections of Education Statistics to 2003*, *Projections of Education Statistics to 2004*, *Projections of Education Statistics to 2005*, *Projections of Education Statistics to 2006*, and *Projections of Education Statistics to 2007*.

[2] *Projections of Education Statistics to 2000*, *Projections of Education Statistics to 2003*, *Projections of Education Statistics to 2004*, *Projections of Education Statistics to 2005*, *Projections of Education Statistics to 2006*, and *Projections of Education Statistics to 2007*. The projections presented in the *Projections of Education Statistics to 2000* were calculated using significantly different models than those presented in later editions including this one.

SOURCES: Various issues of *Projections of Education Statistics*. (This table was prepared October 1997.)

Appendix B

Supplementary Tables

Table B1.—Annual number of births (U.S. Census Projections, Middle Series): 50 States and D.C., 1948 to 2008

(In thousands)

Calendar Year	Number of Births
1948	3,655
1949	3,667
1950	3,645
1951	3,845
1952	3,933
1953	3,989
1954	4,102
1955	4,128
1956	4,244
1957	4,332
1958	4,279
1959	4,313
1960	4,307
1961	4,317
1962	4,213
1963	4,142
1964	4,070
1965	3,801
1966	3,642
1967	3,555
1968	3,535
1969	3,626
1970	3,739
1971	3,556
1972	3,258
1973	3,137
1974	3,160
1975	3,144
1976	3,168
1977	3,327
1978	3,333
1979	3,494

NOTE: Historical numbers may differ from those in previous editions.

Table B1.—Annual number of births (U.S. Census Projections, Middle Series):—Continued 50 States and D.C., 1948 to 2008

(In thousands)

Calendar Year	Number of Births
1980	3,612
1981	3,629
1982	3,681
1983	3,639
1984	3,669
1985	3,761
1986	3,757
1987	3,809
1988	3,910
1989	4,041
1990	4,148
1991	4,111
1992	4,065
1993	4,000
1994	3,953
1995	3,900
1996	3,850
	Projected
1997	3,907
1998	3,899
1999	3,896
2000	3,898
2001	3,907
2002	3,920
2003	3,940
2004	3,967
2005	4,001
2006	4,042
2007	4,089
2008	4,140

SOURCE: U.S. Department of Commerce, Bureau of the Census, "Population Projections of the United States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2050," *Current Population Reports*, Series P-25, No. 1130, February 1996; U.S. Department of Health and Human Services, National Center for Health Statistics (NCHS), Annual Summary of Births, Marriages, Divorces, and Deaths: United States, various years, *Monthly Vital Statistics Reports*; and unpublished tabulations. (This table was prepared October 1997.)

Table B2.—Preprimary school-age populations (U.S. Census projections, Middle Series): 50 States and D.C., 1983 to 2008

(In thousands)

Year (July 1)	3 years old	4 years old	5 years old	3-5 years old
1983	3,478	3,398	3,296	10,172
1984	3,527	3,518	3,397	10,442
1985	3,566	3,568	3,518	10,652
1986	3,579	3,610	3,568	10,757
1987	3,508	3,623	3,610	10,741
1988	3,619	3,556	3,627	10,802
1989	3,646	3,669	3,559	10,874
1990	3,657	3,696	3,677	11,030
1991	3,714	3,711	3,695	11,120
1992	3,808	3,771	3,711	11,290
1993	3,964	3,868	3,775	11,607
1994	3,987	4,024	3,870	11,881
1995	3,961	4,048	4,025	12,034
1996	3,884	4,018	4,046	11,948
Projected				
1997	3,849	3,956	4,031	11,836
1998	3,830	3,911	3,962	11,703
1999	3,807	3,891	3,917	11,615
2000	3,791	3,869	3,896	11,556
2001	3,781	3,853	3,874	11,508
2002	3,775	3,843	3,858	11,476
2003	3,777	3,838	3,848	11,463
2004	3,781	3,838	3,844	11,463
2005	3,792	3,844	3,845	11,481
2006	3,807	3,854	3,850	11,511
2007	3,830	3,871	3,861	11,562
2008	3,861	3,894	3,878	11,633

NOTE: Historical numbers may differ from those in previous editions. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Commerce, Bureau of the Census, "U.S. Population Estimates, by Age, Sex, Race, and Hispanic Origin: 1980 to 1991," *Current Population Reports*, Series P-25, No. 1095, February 1993; U.S. Population Estimates by Age, Sex, Race, and Hispanic Origin: 1990 to 1996, Appendix B, PPL-57; and "Population Projections of the United States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2050," *Current Population Reports*, Series P-25, No. 1130, February 1996; and unpublished tabulations. (This table was prepared October 1997.)

Table B3.—School-age populations (U.S. Census projections, Middle Series), ages 5, 6, 5–13, and 14–17 years: 50 States and D.C., 1983 to 2008

(In thousands)

Year (July 1)	5 years old	6 years old	5–13 years old	14–17 years old
1983	3,296	3,276	30,278	14,740
1984	3,397	3,298	30,063	14,726
1985	3,518	3,399	29,893	14,888
1986	3,568	3,518	30,078	14,825
1987	3,610	3,568	30,501	14,503
1988	3,627	3,611	31,030	14,023
1989	3,559	3,625	31,412	13,535
1990	3,677	3,559	31,986	13,315
1991	3,695	3,673	32,446	13,439
1992	3,711	3,693	32,921	13,681
1993	3,775	3,713	33,365	13,958
1994	3,870	3,774	33,702	14,452
1995	4,025	3,868	34,188	14,785
1996	4,046	4,020	34,591	15,171
Projected				
1997	4,031	4,059	35,206	15,464
1998	3,962	4,032	35,608	15,503
1999	3,917	3,963	35,846	15,662
2000	3,896	3,917	36,044	15,752
2001	3,874	3,898	36,198	15,853
2002	3,858	3,876	36,276	16,091
2003	3,848	3,860	36,249	16,300
2004	3,844	3,850	36,055	16,638
2005	3,845	3,846	35,852	16,985
2006	3,850	3,846	35,668	17,238
2007	3,861	3,851	35,572	17,332
2008	3,878	3,863	35,539	17,215

NOTE: Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Commerce, Bureau of the Census, "U.S. Population Estimates, by Age, Sex, Race, and Hispanic Origin: 1980 to 1991," *Current Population Reports*, Series P-25, No. 1095, February 1993; U.S. Population Estimates by Age, Sex, Race, and Hispanic Origin: 1990 to 1996, Appendix B, PPL-57; and "Population Projections of the United States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2050," *Current Population Reports*, Series P-25, No. 1130, February 1996; and unpublished tabulations. (This table was prepared October 1997.)

Table B4.—College-age populations (U.S. Census projections, Middle Series), ages 18, 18–24, 25–29, 30–34, and 35–44 years: 50 States and D.C., 1983 to 2008

(In thousands)

Year (July 1)	18 years old	18–24 years old	25–29 years old	30–34 years old	35–44 years old
1983	3,977	30,173	21,260	19,137	29,336
1984	3,774	29,707	21,584	19,576	30,576
1985	3,686	29,152	21,804	20,102	31,766
1986	3,623	28,468	22,018	20,552	33,081
1987	3,704	27,931	21,982	21,058	34,299
1988	3,803	27,584	21,869	21,470	35,258
1989	3,888	27,378	21,690	21,759	36,494
1990	3,606	27,040	21,354	21,991	37,849
1991	3,398	26,587	20,835	22,240	39,364
1992	3,332	26,163	20,241	22,313	39,966
1993	3,422	25,927	19,674	22,301	40,872
1994	3,381	25,583	19,218	22,214	41,754
1995	3,539	25,283	19,034	21,916	42,625
1996	3,572	24,981	19,070	21,411	43,447
Projected					
1997	3,659	24,807	18,918	20,833	43,989
1998	3,847	25,279	18,637	20,247	44,448
1999	3,849	25,828	18,222	19,780	44,719
2000	3,940	26,376	17,791	19,570	44,718
2001	3,949	26,975	17,296	19,590	44,459
2002	3,883	27,345	17,214	19,436	43,928
2003	4,007	27,798	17,359	19,157	43,305
2004	4,031	28,170	17,698	18,744	42,745
2005	4,052	28,384	18,126	18,307	42,223
2006	4,116	28,656	18,604	17,804	41,723
2007	4,213	28,937	19,015	17,722	40,964
2008	4,372	29,368	19,400	17,872	40,095

NOTE: Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Commerce, Bureau of the Census, "U.S. Population Estimates, by Age, Sex, Race, and Hispanic Origin: 1980 to 1991," *Current Population Reports*, Series P-25, No. 1095, February 1993; U.S. Population Estimates by Age, Sex, Race, and Hispanic Origin: 1990 to 1996, Appendix B, PPL-57; and "Population Projections of the United States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2050," *Current Population Reports*, Series P-25, No. 1130, February 1996; and unpublished tabulations. (This table was prepared October 1997.)

Table B5.—Average daily attendance (ADA) in public elementary and secondary schools, change in ADA, the population, and ADA as a proportion of the population: 50 States and D.C., 1982–83 to 2007–08

Year ending	ADA[1] (in thousands)	Change in ADA	Population (in millions)	ADA as a ratio of the the population
1983	36,636	-458,784	232.2	0.158
1984	36,363	-272,890	234.3	0.155
1985	36,404	41,283	236.3	0.154
1986	36,523	118,842	238.5	0.153
1987	36,864	340,764	240.7	0.153
1988	37,051	186,840	242.8	0.153
1989	37,268	217,365	245.0	0.152
1990	37,799	531,224	247.3	0.153
1991	38,427	627,247	249.9	0.154
1992	38,961	534,240	252.6	0.154
1993	39,570	609,679	255.4	0.155
1994	40,146	575,931	258.1	0.156
1995	40,721	574,370	260.7	0.156
1996[2]	41,563	842,577	263.2	0.158
		Projected		
1997	42,296	732,237	265.6	0.159
1998	42,924	628,902	268.0	0.160
1999	43,372	447,798	270.3	0.160
2000	43,698	325,517	272.6	0.160
2001	43,973	274,819	274.9	0.160
2002	44,213	239,967	277.2	0.159
2003	44,422	209,431	279.5	0.159
2004	44,562	139,810	281.8	0.158
2005	44,697	135,653	284.0	0.157
2006	44,803	105,646	286.3	0.156
2007	44,834	30,756	288.6	0.155
2008	44,810	-24,157	290.9	0.154

[1] Projections of average daily attendance were made by multiplying the forecasts for enrollment reported in chapter 1 by the average value of the ratio of average daily attendance to the enrollment from 1986 to 1995, approximately 0.93 percent.

[2] Average daily attendance is projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Commerce, Bureau of the Census, "U.S. Population Estimates, by Age, Sex, Race, and Hispanic Origin: 1980 to 1991," Series P–25, No. 1095, February 1994 and unpublished tabulations; U.S. Department of Education, National Center for Education Statistics, *Statistics of State School Systems*; Common Core of Data survey; Early Estimates survey; The WEFA Group, "Mark 11 Quarterly Model of the U.S. Economy." (This table was prepared October 1997.)

Table B6.—Disposable income per capita (in constant 1995–96 dollars),[1] with alternative projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Disposable income per capita		
1983	$16,491	—	—
1984	17,281	—	—
1985	18,075	—	—
1986	18,403	—	—
1987	18,634	—	—
1988	19,053	—	—
1989	19,439	—	—
1990	19,612	—	—
1991	19,538	—	—
1992	19,598	—	—
1993	19,802	—	—
1994	19,910	—	—
1995	20,304	—	—
1996	20,706	—	—
	Middle alternative projections	**Low alternative projections**	**High alternative projections**
1997	21,166	$21,166	$21,166
1998	21,525	21,525	21,525
1999	21,832	21,722	21,883
2000	22,181	21,884	22,377
2001	22,564	22,174	22,842
2002	22,909	22,454	23,262
2003	23,288	22,764	23,703
2004	23,720	23,106	24,182
2005	24,102	23,374	24,614
2006	24,419	23,575	24,987
2007	24,693	23,744	25,332
2008	24,997	23,926	25,716

[1] Based on the price deflator for personal consumption expenditures, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: The WEFA Group, "Mark 11 Quarterly Model of the U.S. Economy." (This table was prepared October 1997.)

Table B7.—Education revenue receipts from state sources per capita (in constant 1995–96 dollars),[1] with alternative projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Education revenue receipts from state sources per capita		
1983	$382	—	—
1984	390	—	—
1985	415	—	—
1986	438	—	—
1987	455	—	—
1988	461	—	—
1989	478	—	—
1990	483	—	—
1991	486	—	—
1992	481	—	—
1993	481	—	—
1994	481	—	—
1995	503	—	—
1996[2]	503	—	—
	Middle alternative projections	**Low alternative projections**	**High alternative projections**
1997	510	$510	$510
1998	524	524	524
1999	526	525	527
2000	536	535	537
2001	545	542	547
2002	548	542	553
2003	552	542	559
2004	556	545	567
2005	561	550	573
2006	567	555	581
2007	571	558	587
2008	575	560	593

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

[2] Projected.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Statistics of State School Systems*; Common Core of Data survey; Early Estimates survey; and National Education Association, annual *Estimates of State School Statistics*. (Latest edition 1996–97. Copyright 1997 by the National Education Association. All rights reserved.) (This table was prepared October 1997.)

Table B8.—Consumer Price Index (base year 1995–96), with alternative projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Consumer Price Index		
1983	0.635	—	—
1984	0.659	—	—
1985	0.684	—	—
1986	0.704	—	—
1987	0.720	—	—
1988	0.750	—	—
1989	0.784	—	—
1990	0.822	—	—
1991	0.867	—	—
1992	0.895	—	—
1993	0.922	—	—
1994	0.947	—	—
1995	0.974	—	—
1996	1.000	—	—
	Middle alternative projections	**Low alternative projections**	**High alternative projections**
1997	1.029	1.029	1.029
1998	1.054	1.054	1.054
1999	1.089	1.091	1.086
2000	1.125	1.131	1.118
2001	1.161	1.171	1.151
2002	1.198	1.211	1.183
2003	1.233	1.250	1.214
2004	1.266	1.288	1.242
2005	1.300	1.327	1.272
2006	1.335	1.367	1.302
2007	1.372	1.408	1.334
2008	1.408	1.451	1.364

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: The WEFA Group, "Mark 11 Quarterly Model of the U.S. Economy." (This table was prepared October 1997.)

Table B9.—Rate of change for the inflation rate based on the Consumer Price Index, with alternative projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Rate of change for the inflation rate		
1983	-0.508	—	—
1984	-0.134	—	—
1985	0.059	—	—
1986	-0.259	—	—
1987	-0.231	—	—
1988	0.859	—	—
1989	0.100	—	—
1990	0.046	—	—
1991	0.148	—	—
1992	-0.419	—	—
1993	-0.021	—	—
1994	-0.163	—	—
1995	0.094	—	—
1996	-0.051	—	—
	Middle alternative projections	**Low alternative projections**	**High alternative projections**
1997	0.065	0.065	0.065
1998	-0.139	-0.139	-0.139
1999	0.303	0.376	0.216
2000	0.024	0.088	-0.036
2001	-0.024	-0.051	-0.001
2002	-0.027	-0.027	-0.029
2003	-0.068	-0.063	-0.075
2004	-0.081	-0.074	-0.110
2005	0.001	0.011	0.011
2006	-0.004	0.005	0.019
2007	0.010	0.006	0.003
2008	-0.022	-0.017	-0.050

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: The WEFA Group, "Mark 11 Quarterly Model of the U.S. Economy." (This table was prepared October 1997.)

Table B10.—Personal tax and nontax payments to state and local governments, per capita (in constant 1995–96 dollars),[1] with alternative projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Personal tax and nontax payments per capita		
1983	$485	—	—
1984	535	—	—
1985	560	—	—
1986	579	—	—
1987	624	—	—
1988	623	—	—
1989	647	—	—
1990	666	—	—
1991	662	—	—
1992	681	—	—
1993	692	—	—
1994	689	—	—
1995	686	—	—
1996	702	—	—
	Middle alternative projections	**Low alternative projections**	**High alternative projections**
1997	723	$723	$723
1998	738	738	738
1999	751	751	752
2000	770	763	775
2001	778	765	788
2002	785	766	800
2003	796	774	817
2004	812	789	837
2005	827	803	857
2006	841	813	874
2007	852	821	889
2008	864	829	905

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: The WEFA Group, "Mark 11 Quarterly Model of the U.S. Economy." (This table was prepared October 1997.)

Table B11.—Indirect business taxes and nontax accruals, excluding property taxes, for state and local governments, per capita (in constant 1995–96 dollars),[1] with alternative projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Indirect business taxes and nontax accruals per capita		
1983	$862	—	—
1984	934	—	—
1985	979	—	—
1986	1,023	—	—
1987	1,039	—	—
1988	1,054	—	—
1989	1,057	—	—
1990	1,060	—	—
1991	1,043	—	—
1992	1,058	—	—
1993	1,070	—	—
1994	1,090	—	—
1995	1,109	—	—
1996	1,123	—	—
	Middle alternative projections	**Low alternative projections**	**High alternative projections**
1997	1,130	$1,130	$1,130
1998	1,148	1,148	1,148
1999	1,165	1,160	1,170
2000	1,184	1,169	1,199
2001	1,204	1,180	1,225
2002	1,220	1,188	1,248
2003	1,244	1,203	1,278
2004	1,273	1,222	1,313
2005	1,300	1,241	1,348
2006	1,323	1,254	1,378
2007	1,345	1,268	1,408
2008	1,369	1,283	1,440

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: The WEFA Group, "Mark 11 Quarterly Model of the U.S. Economy." (This table was prepared October 1997.)

Table B12.—Sum of personal tax and nontax payments and indirect business taxes and tax accruals, excluding property taxes, for state and local governments per capita (in constant 1995–96 dollars),[1] with alternative projections: 50 States and D.C., 1982–83 to 2007–08

Year ending	Tax and nontax payments per capita		
1983	$1,347	—	—
1984	1,468	—	—
1985	1,539	—	—
1986	1,602	—	—
1987	1,663	—	—
1988	1,677	—	—
1989	1,704	—	—
1990	1,726	—	—
1991	1,705	—	—
1992	1,738	—	—
1993	1,762	—	—
1994	1,779	—	—
1995	1,795	—	—
1996	1,825	—	—
	Middle alternative projections	**Low alternative projections**	**High alternative projections**
1997	1,853	$1,853	$1,853
1998	1,886	1,886	1,886
1999	1,916	1,911	1,922
2000	1,954	1,932	1,974
2001	1,982	1,945	2,012
2002	2,006	1,954	2,047
2003	2,040	1,977	2,095
2004	2,084	2,011	2,151
2005	2,127	2,044	2,205
2006	2,164	2,068	2,252
2007	2,197	2,089	2,297
2008	2,233	2,113	2,344

[1] Based on the Consumer Price Index for all urban consumers, Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Calculations were made using unrounded numbers. Historical numbers may differ from those in previous editions.

SOURCE: The WEFA Group, "Mark 11 Quarterly Model of the U.S. Economy." (This table was prepared October 1997.)

Appendix C

Data Sources

Sources and Comparability of Data

The information in this report was obtained from many sources, including Federal and state agencies, private research organizations, and professional associations. The data were collected by many methods, including surveys of a universe (such as all colleges) or of a sample, and compilations of administrative records. Care should be used when comparing data from different sources. Differences in procedures, such as timing, phrasing of questions, and interviewer training mean that the results from the different sources are not strictly comparable. More extensive documentation of one survey's procedures than of another's does not imply more problems with the data, only that more information is available.

Accuracy of Data

The accuracy of any statistic is determined by the joint effects of "sampling" and "nonsampling" errors. Estimates based on a sample will differ from the figures that would have been obtained if a complete census had been taken using the same survey instruments, instructions, and procedures. Besides sampling errors, both surveys, universe and sample, are subject to errors of design, reporting, processing, and errors due to nonresponse. To the extent possible, these nonsampling errors are kept to a minimum by methods built into the survey procedures. In general, however, the effects of nonsampling errors are more difficult to gauge than those produced by sampling variability.

Sampling Errors

The standard error is the primary measure of sampling variability. It provides a specific range—with a stated confidence—within which a given estimate would lie if a complete census had been conducted. The chances that a complete census would differ from the sample by less than the standard error are about 68 out of 100. The chances that the difference would be less than 1.65 times the standard error are about 90 out of 100. The chances that the difference would be less than 1.96 times the standard error are about 95 out of 100. The chances that it would be less than 2.58 times as large are about 99 out of 100.

The standard error can help assess how valid a comparison between two estimates might be. The standard error of a difference between two sample estimates that are uncorrelated is approximately equal to the square root of the sum of the squared standard errors of the estimates. The standard error (se) of the difference between sample estimate "a" and sample estimate "b" is:

$$se_{a-b} = (se_a^2 + se_b^2)^{1/2}$$

Note that most of the standard errors in subsequent sections and in the original documents are approximations. That is, to derive estimates of standard errors that would be applicable to a wide variety of items and could be prepared at a moderate cost, a number of approximations were required. As a result, most of the standard errors presented provide a general order of magnitude rather than the exact standard error for any specific item.

Nonsampling Errors

Both universe and sample surveys are subject to nonsampling errors. Nonsampling errors are of two kinds—random and nonrandom. Random nonsampling errors may arise when respondents or interviewers interpret questions differently, when respondents must estimate values, or when coders, keyers, and other processors handle answers differently. Nonrandom nonsampling errors result from total nonresponse (no usable data obtained for a sampled unit), partial or item nonresponse (only a portion of a response may be usable), inability or unwillingness on the part of respondents to provide information, difficulty interpreting questions, mistakes in recording or keying data, errors of collection or processing, and overcoverage or undercoverage of the target universe. Random nonresponse errors usually, but not always, result in an understatement of sampling errors and thus an overstatement of the precision of survey estimates. Because estimating the magnitude of nonsampling errors would require special experiments or access to independent data, these magnitudes are seldom available.

To compensate for suspected nonrandom errors, adjustments of the sample estimates are often made. For example, adjustments are frequently made for nonresponse, both total and partial. An adjustment made for either type of nonresponse is often referred to as an imputation, that is, substitution of the "average" questionnaire response for the nonresponse. Imputations are usually made separately within various groups of sample members that have similar survey characteristics. Imputation for item nonresponse is usually made by substituting for a missing item the response to that item of a respondent having characteristics that are similar to those of the nonrespondent.

Although the magnitude of nonsampling errors in the data used in this *Projections of Education Statistics* is frequently unknown, idiosyncrasies that have been identified are noted on the appropriate tables.

Federal Agency Sources

National Center for Education Statistics (NCES)

Common Core of Data

NCES uses the Common Core of Data (CCD) survey to acquire and maintain statistical data on the 50 states, the District of Columbia, and the outlying areas from the universe of state-level education agencies. Information about staff and students is collected annually at the school, LEA (local education agency or school district), and state levels. Information about revenues and expenditures is also collected at the state and school district level.

Data are collected for a particular school year (July 1 through June 30) via survey instruments sent to the states by October 15 of the subsequent school year. States have 2 years in which to modify the data originally submitted.

Since the CCD is a universe survey, the CCD information presented in this edition of *Projections of Education Statistics* is not subject to sampling errors. However, nonsampling errors could come from two sources—nonreturn and inaccurate reporting. Almost all of the states submit the CCD survey instruments each year, but submissions are sometimes incomplete or too late for publication.

Understandably, when 57 education agencies compile and submit data for over 85,000 public schools and approximately 15,000 local school districts, misreporting can occur. Typically, this results from varying interpretation of NCES definitions and differing recordkeeping systems. NCES attempts to minimize these errors by working closely with the Council of Chief State School Officers (CCSSO).

The state education agencies report data to NCES from data collected and edited in their regular reporting cycles. NCES encourages the agencies to incorporate into their own survey systems the NCES items they do not already collect so that those items will also be available for the subsequent CCD survey. Over time, this has meant fewer missing data cells in each state's response, reducing the need to impute data.

NCES subjects data from the education agencies to a comprehensive edit. Where data are determined to be inconsistent, missing, or out of range, NCES contacts the education agencies for verification. NCES-prepared state summary forms are returned to the state education agencies for verification. States are also given an opportunity to revise their state-level aggregates from the previous survey cycle.

Questions concerning the Common Core of Data can be directed to:

John Sietsema
Surveys and Cooperative Systems Group
National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208

Private School Early Estimates System: 1992–93. Early in September 1992, advance questionnaires were mailed to a national probability sample of 1,167 private elementary and secondary schools. Telephone collection of the data began in early October and was completed in mid-October. The telephone data collection used Computer Assisted Telephone Interviewing (CATI) technology to collect the data and perform preliminary edits. The overall response rate was 93.3 percent: 1,045 of the 1,120 eligible schools. Some 47 of the original 1,167 schools in the sample were determined to be out-of-scope. After adjusting for out-of-scope schools, the weighted estimate of private schools is 26,011.

The sampling frame used for the Private School Early Estimates Survey was the 1991–92 NCES Private School Survey (PSS). This survey collected information on the number of teachers and students in private schools, by school religious orientation and level as well as actual and projected counts of high school graduates. The PSS, and therefore the early estimates survey, uses two nonoverlapping frames: the list frame of approximately 24,000 eligible schools (the universe list), and an area frame developed by the Census Bureau, consisting of 355 schools identified in 124 sampled geographic areas (Primary Sampling Units or PSUs). The area frame is constructed from a sample survey designed to capture those schools not included in the universe list and is repeated every 2 years. The 355 schools identified in the sampled areas are weighted to a national estimate of the number of private schools not included in the universe list. This weighted number is then added to the universe count to produce an estimate of the total number of private schools in the United States.

For the early estimates, the list frame was stratified by level of school (elementary, secondary, and combined) and religious orientation (Catholic, other religious, and nonsectarian). Within strata, schools were further sorted by Census region (Northeast, Midwest, South, and West), by urbanicity (urban, suburban, and rural) within region, and by student membership size within urbanicity. Each school in the sorted frame was assigned a sampling measure of size equal to the square root of student membership.

The area frame was stratified by level of school (elementary, secondary, and combined) and religious orientation (Catholic, other religious, and nonsectarian). Within strata, schools were further sorted by FIPS (Federal Information Processing Standards) state code, by PSU within state, and by student membership within PSU. Samples were selected with probabilities proportionate to size from each stratum. The measure of size used for this purpose was the square root of student membership multiplied by the inverse of the probability of selection of the PSU in which the school is located.

The estimation procedure is a two-step process. The first step is to produce estimates based on the NCES frame for private schools (1991–92 Private School Survey [PSS]). These estimates are adjusted for total school nonresponse, as well as item nonresponse. The second step is to update the PSS-based estimates, using the data collected in the 1992 Early Estimates Survey (EES). This EES update is a ratio estimate of the 1992 estimate from EES divided by the 1991 estimate based on the 1991 PSS data for the EES sample. The estimates in the tables are the PSS-based estimates times the EES update. The early estimates in this report incorporate the relevant estimates from the PSS and update them using data collected in the EES.

The private school early estimates are based on a sample; these estimates may differ somewhat from figures that would have been obtained if a complete census of private schools had been taken using the same questionnaire and procedures. The standard error indicates the magnitude of the sampling error, the variability due to sampling when estimating a statistic. It indicates how much variance there is in the population of possible estimates of a parameter for a given sample size. Standard errors can be used as a measure of the precision expected from a particular sample. If all possible samples were surveyed under similar conditions, intervals of 1.96 standard errors below to 1.96 standard errors above a particular statistic would include the true population parameter being estimated in about 95 percent of the samples. This is a 95 percent confidence interval. For example, for the ratio of private school pupils to private school teachers in 1992–93, the estimate for all private schools is 14.9 and the standard error is 0.2. The 95 percent confidence interval for this statistic extends from 14.9 - (0.2 times 1.96) to 14.9 + (0.2 times 1.96) or from 14.5 to 15.3. The standard error for the 4,964,258 students in private schools is 116,612. The 95 percent confidence interval for this statistic extends from 4,735,698 to 5,192,818.

Estimates of standard errors were computed using a variance estimation procedure for complex sample survey data known as balanced repeated replication (BRR)—a technique that splits the sample into several different half-samples. Weight-adjusted estimates are computed from the half-samples. Finally, the standard error of the half-sample estimates is used as an approximation for the full-sample standard error. The standard errors for private school early estimates for school years 1991–92 and 1992–93 are shown in the table below.

Students (1992–93)	**Teachers (1992–93)**	**Graduates (1991–92)**
116,612.2	8,714.8	6,071.4

Survey estimates are also subject to errors of reporting and errors made in the collection and processing of the data. These errors, called nonsampling errors, can sometimes bias the data. While general sampling theory can be used to estimate the sampling variability of an estimate, nonsampling errors are not easy to measure and usually require either an experiment conducted as part of the data collection procedure or use of data external to the study.

Nonsampling errors may include such things as differences in the respondents' interpretation of the meaning of the questions, differences related to the particular time the survey was conducted, or errors in data preparation. The content of the survey was developed in consultation with representatives of private school associations attending NCES meetings for users of private school data. The questionnaire and instructions were reviewed extensively by NCES staff. The CATI instrument provided on-line internal consistency checks (i.e., totals equal sum of parts) as well as consistency checks with 1991 data for the sample school. Interviewers resolved discrepancies with the school during the course of the interview. Machine editing of the questionnaires was conducted to check the data for accuracy and consistency. Data inputs into the CATI system were transferred directly to processing, avoiding potential keying errors.

Undercoverage in the list and area frames is another possible source of nonsampling error. The area frame was used to complement the list frame through the identification of schools missing from the list frame. The area frame represents approximately 10 percent of the total number of private schools. The 1991–92 list and area frame updates to the PSS were reflected in this year's early estimates, and so schools newly opened since 1989 are included in those new estimates.

Questions concerning the Private School Early Estimates System can be directed to:

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National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208

Integrated Postsecondary Education Data System

The Integrated Postsecondary Education Data System (IPEDS) surveys all postsecondary institutions, including universities and colleges, as well as institutions offering technical and vocational education beyond the high school level. This survey, which began in 1986, replaces and supplements the Higher Education General Information Survey (HEGIS).

The IPEDS consists of several integrated components that obtain information on who provides postsecondary education (institutions), who participates in it and completes it (students), what programs are offered and what programs are completed, and both the human and financial resources involved in the provision of institutionally based postsecondary education. Specifically, these components include: institutional characteristics, including institutional activity; fall enrollment, including age and residence; fall enrollment in occupationally specific programs; completions; finance; staff; salaries of full-time instructional faculty; and academic libraries.

The higher education portion of this survey is a census of accredited 2- and 4-year colleges. Prior to 1993, data from the technical and vocational institutions were collected through a sample survey. Beginning in 1993, all data are gathered in a census of all postsecondary institutions. Thus, some portions of the data will be subject to sampling and nonsampling errors, while some portions will be subject only to nonsampling errors.

Prior to the establishment of IPEDS in 1986, HEGIS acquired and maintained statistical data on the characteristics and operations of institutions of higher education. Implemented in 1966, HEGIS was an annual universe survey of institutions listed in the latest NCES *Education Directory, Colleges and Universities*.

The information presented in this report draws on IPEDS surveys that solicited information concerning institutional characteristics, enrollment, degrees, and finances. The higher education portion of this system is a census of accredited 2- and 4-year colleges. Since these surveys cover all institutions in the universe, the data are not subject to sampling error.

However, they are subject to nonsampling error, the sources of which vary with the survey instrument. Each survey will therefore be discussed separately. Information concerning the nonsampling error of the enrollment and degrees surveys is drawn extensively from the HEGIS Post-Survey Validation Study conducted in 1979.

Institutional Characteristics. This survey provided the basis for the universe of institutions presented in the *Education Directory, Colleges and Universities*. The universe comprised institutions that met certain accreditation criteria and offered at least a 1-year program of college-level studies leading toward a degree. All of these institutions were certified as eligible by the U.S. Department of Education's Division of Eligibility and Agency Evaluation. Each fall, institutions listed in the previous year's *Directory* were asked to update a computer printout of their information.

Fall Enrollment. This survey has been part of the IPEDS or HEGIS series since 1966. The enrollment survey response rate was relatively high; the 1995 response rate was 97.0 percent. Major sources of nonsampling error for this survey were classification problems, the unavailability of needed data, interpretation of definitions, the survey due date, and operational errors. Of these, the classification of students appears to have been the main source of error. Institutions had problems in correctly classifying first-time freshmen, other first-time students, and unclassified students for both full-time and part-time categories. These problems occurred most often at 2-year institutions (private and public) and private 4-year institutions. In the 1977–78 HEGIS validation studies, the classification problem led to an estimated overcount of 11,000 full-time students and an undercount of 19,000 part-time students. Although the ratio of error to the grand total was quite small (less than 1 percent), the percentage of errors was as high as 5 percent for detailed student levels and even higher at certain aggregation levels.

Beginning with fall 1986, the survey system was redesigned with the introduction of the Integrated Postsecondary Education Data System (IPEDS) (see above). The new survey system comprises all postsecondary institutions, but also maintains comparability with earlier surveys by allowing HEGIS institutions to be tabulated separately. The new system also provides for preliminary and revised data releases. This allows the Center flexibility to release early data sets while still maintaining a more accurate final data base.

Completions. This survey was part of the HEGIS series throughout its existence. However, the degree classification taxonomy was revised in 1970–71, 1982–83, and 1991–92. Collection of degree data has been maintained through the IPEDS system.

Though information from survey years 1970–71 through 1981–82 is directly comparable, care must be taken if information before or after that period is included in any field of study comparison. The nonresponse rate did not appear to be a significant source of nonsampling error for this survey. The return rate over the years was high, with the response rate for the 1994–95 survey at 97 percent. Because of the high return rate, nonsampling error caused by imputation was also minimal.

The major sources of nonsampling error for this survey were differences between the NCES program taxonomy and taxonomies used by the colleges, classification of double majors and double degrees, operational problems, and survey timing. In the 1979 HEGIS validation study, these sources of nonsampling were found to contribute to an error rate of 0.3 percent overreporting of bachelor's degrees and 1.3 percent overreporting of master's degrees. The differences, however, varied greatly among fields. Over 50 percent of the fields selected for the validation study had no errors identified. Categories of fields that had large differences were business and management, education, engineering, letters, and psychology. It was also shown that differences in proportion to the published figures were less than 1 percent for most of the selected fields that had some errors. Exceptions to these were: master's and doctor's programs in labor and industrial relations (20 percent and 8 percent); bachelor's and master's programs in art education (3 percent and 4 percent); bachelor's and doctor's programs in business and commerce, and in distributive education (5 percent and 9 percent); master's programs in philosophy (8 percent); and doctor's programs in psychology (11 percent).

Financial Statistics. This survey was part of the HEGIS series and has been continued under the IPEDS system. Changes were made in the financial survey instruments in fiscal years (FY) 1976, 1982, and 1987. The FY 76 survey instrument contained numerous revisions to earlier survey forms and made direct comparisons of line items very difficult. Beginning in FY 82, Pell Grant data were collected in Federal restricted grants and contracts revenues and restricted scholarships and fellowships expenditures.

The introduction of the Integrated Postsecondary Education Data System (IPEDS) in the FY 87 survey included several important changes to the survey instrument and data processing procedures. While these changes were significant, considerable effort has been made to present only comparable information on trends in this report and to note inconsistencies. Finance tables for this publication have been adjusted by subtracting the largely duplicative Pell Grant amounts from the later data to maintain comparability with pre-FY 82 data.

Possible sources of nonsampling error in the financial statistics include nonresponse, imputation, and misclassification. The response rate has been about 85 to 90 percent for most of the years reported. The response rate for the FY 1995 survey was 94 percent.

Two general methods of imputation were used in HEGIS. If the prior years' data were available for a nonresponding institution, these data were inflated using the Higher Education Price Index and adjusted according to changes in enrollments. If there were no data for the previous four years, current data were used from peer institutions selected for location (state or region), control, level, and enrollment size of institution. In most cases, estimates for nonreporting institutions in IPEDS were made using data from peer institutions.

Beginning with FY 87, the new system (IPEDS) comprises all postsecondary institutions, but also maintains comparability with earlier surveys by allowing 2- and 4-year HEGIS institutions to be tabulated separately. The finance data tabulated for this publication reflect totals for the HEGIS or higher education institutions only.

To reduce reporting error, NCES used national standards for reporting finance statistics. These standards are contained in *College and University Business Administration: Administrative Services (1974 Edition)* and the *Financial Accounting and Reporting Manual for Higher Education (1990 Edition)* published by the National Association of College and University Business Officers; *Audits of Colleges and Universities* (as amended August 31, 1974), by the American Institute of Certified Public Accountants; and *HEGIS Financial Reporting Guide (1980)*, by NCES. Wherever possible, definitions and formats in the survey are consistent with those in these four accounting texts.

Questions concerning the surveys used as data sources for this report or other questions concerning HEGIS and IPEDS can be directed to:

Surveys and Cooperative Systems Group
National Center for Education Statistics
555 New Jersey Avenue NW
Washington, DC 20208

Bureau of the Census

Current Population Survey

Current estimates of school enrollment, as well as social and economic characteristics of students, are based on data collected in the Census Bureau's monthly survey of about 60,000 households. The monthly Current Population Survey (CPS) sample consists of 729 areas comprising 1,973 counties, independent cities, and minor civil divisions throughout the 50 states and the District of Columbia. The sample was initially selected from the 1980 census files and is periodically updated to reflect new housing construction.

The monthly CPS deals primarily with labor force data for the civilian noninstitutional population (i.e., excluding military personnel and their families living on posts and inmates of institutions). In addition, in October of each year, supplemental questions are asked about highest grade completed, level of current enrollment, attendance status, number and types of courses, degree or certificate objective, and type of organization offering instruction for each member of the household.

The estimation procedure used for the monthly CPS data involves inflating weighted sample results to independent estimates of characteristics of the civilian noninstitutional population in the United States by age, sex, and race. These independent estimates are based on statistics from decennial censuses that include statistics on births, deaths, immigration, and emigration and statistics on the population in the armed services. Generalized standard error tables are in the *Current Population Reports*. The data are subject to both nonsampling and sampling errors.

More information is available in the *Current Population Reports*, Series P-20, or by contacting:

Education and Social Stratification Branch
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233

School Enrollment. Each October, the Current Population Survey (CPS) includes supplemental questions on the enrollment status of the population 3 years old and over. The main sources of nonsampling variability in the responses to the supplement are those inherent in the survey instrument. The question concerning educational attainment may be sensitive for some respondents who may not want to acknowledge their lack of a high school diploma. The question of current enrollment may not be answered accurately for various reasons. Some respondents may not know current grade information for every student in the household, a problem especially prevalent for households with members in college or in nursery school. Confusion over college credits or hours taken by a student may make it difficult to determine the year in which the student is enrolled. Problems may occur with the definition of nursery school (a group or class organized to provide educational experiences for children) where respondents' interpretations of "educational experiences" vary.

Questions concerning the CPS "School Enrollment" survey may be directed to:

Education and Social Stratification Branch
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233

State population projections. These state population projections were prepared using a cohort-component method by which each component of population change—births, deaths, state-to-state migration flows, international in-migration, and international out-migration—was projected separately for each birth cohort by sex, race, and Hispanic origin. The basic framework was the same as in past Census Bureau projections. Detailed components necessary to create the projections were obtained from vital statistics, administrative records, census data, and national projections.

The cohort-component method is based on the traditional demographic accounting system:

$$P_1 = P_0 + B - D + DIM - DOM + IIM - IOM$$

where:

P_1 = population at the end of the period

P_0 = population at the beginning of the period

B = births during the period

D = deaths during the period

DIM = domestic in-migration during the period

DOM = domestic out-migration during the period

IIM = international in-migration during the period

IOM = international out-migration during the period

To generate population projections with this model, the Census Bureau created separate data sets for each of these components. In general, the assumptions concerning the future levels of fertility, mortality, and international migration are consistent with the assumptions developed for the national population projections of the Census Bureau.

Once the data for each component were developed, it was a relatively straightforward process to apply the cohort-component method and produce the projections. For each projection year the base population for each state was disaggregated into eight race and Hispanic categories (non-Hispanic white; non-Hispanic black; non-Hispanic American Indian, Eskimo, and Aleut; non-Hispanic Asian and Pacific Islander, Hispanic white; Hispanic black; Hispanic American Indian, Eskimo, and Aleut; and Hispanic Asian and Pacific Islander), by sex, and single year of age (ages 0 to 85+). The next step was to survive each age-sex-race-ethnic group forward 1 year using the pertinent survival rate. The internal redistribution of the population was accomplished by applying the appropriate state-to-state migration rates to the survived population in each state. The projected out-migrants were subtracted from the state of origin and added to the state of destination (as in-migrants). Next, the appropriate number of immigrants from abroad were added to each group. The populations under age 1 were created by applying the appropriate age-race-ethnic-specific birth rates to females of childbearing age. The number of births by sex and race/ethnicity were survived forward and exposed to the appropriate migration rate to yield the population under age 1. The final results of the projection process were adjusted to be consistent with the national population projections by single years of age, sex, race, and Hispanic origin. The entire process was then repeated for each year of the projection.

More information is available in the Census Bureau Population Paper Listing 47 (PPL-47) and Current Population Report P25-1130. These reports may be obtained from:

Statistical Information Staff
Bureau of the Census
U.S. Department of Commerce
Washington, DC 20233
(301) 457-2422
INTERNET: http://www.census.gov

Other Sources

National Education Association

Estimates of School Statistics

The National Education Association (NEA) reports teacher, revenue, and expenditure data in its annual publication, *Estimates of School Statistics*. Each year, NEA prepares regression-based estimates of financial and other education statistics and submits them to the states for verification. Generally, about 30 states adjust these estimates based on their own data. These preliminary data are published by NEA along with revised data from previous years. States are asked to revise previously submitted data as final figures become available. The most recent publication contains all changes reported to the NEA.

Additional information is available from:

National Education Association—Research
1201 16th Street NW
Washington, DC 20036

WEFA Group

WEFA provides a broad range of services that includes forecasts for over 90 economies; over 2 million time series including data on 152 countries; and consultation on a wide variety of business and government issues. One service is the Mark 11 Quarterly Macro Model of the U.S. Economy, which contains projections of the U.S. economic and financial conditions, including forecasts for the federal government, incomes, population, prices, and wages, and state and local government, over a long-term (25 year) forecast period.

Additional information is available from:

WEFA Group
Headquarters
800 Baldwin Tower
Eddystone, PA 19022

Appendix D

Glossary

Data Terms

Associate degree: A degree granted for the successful completion of a subbaccalaureate program of studies, usually requiring at least 2 years (or the equivalent) of full-time college-level study. This term includes degrees granted in a cooperative or work–study program.

Average daily attendance (ADA): The aggregate attendance of a school during a reporting period (normally a school year) divided by the number of days school is in session during this period. Only days on which the pupils are under the guidance and direction of teachers should be considered days in session.

Average daily membership (ADM): The aggregate membership of a school during a reporting period (normally a school year) divided by the number of days school is in session during this period. Only days on which the pupils are under the guidance and direction of teachers should be considered as days in session. The average daily membership for groups of schools having varying lengths of terms is the average of the average daily memberships obtained for the individual schools.

Bachelor's degree: A degree granted for the successful completion of a baccalaureate program of studies, usually requiring at least 4 years (or the equivalent) of full-time college-level study. This term includes degrees granted in a cooperative or work–study program.

Classroom teacher: A staff member assigned the professional activities of instructing pupils in self-contained classes or courses, or in classroom situations. Usually expressed in full-time equivalents.

Cohort: A group of individuals that have a statistical factor in common, for example, year of birth.

College: A postsecondary school that offers a general or liberal arts education, usually leading to an associate, bachelor's, master's, doctor's, or first-professional degree. Junior colleges and community colleges are included in this term.

Constant dollars: Dollar amounts that have been adjusted by means of price and cost indexes to eliminate inflationary factors and allow direct comparison across years.

Consumer Price Index (CPI): This price index measures the average change in the cost of a fixed market basket of goods and services purchased by consumers.

Current dollars: Dollar amounts that have not been adjusted to compensate for inflation.

Current expenditures (elementary/secondary): The expenditures for operating local public schools, excluding capital outlay and interest on school debt. These expenditures include such items as salaries for school personnel, fixed charges, student transportation, school books and materials, and energy costs.

Current expenditures per pupil in average daily attendance: Current expenditures for the regular school term divided by the average daily attendance of full-time pupils (or full-time-equivalency of pupils) during the term. See also *current expenditures* and *average daily attendance*.

Current-fund expenditures (higher education): Money spent to meet current operating costs, including salaries, wages, utilities, student services, public services, research libraries, scholarships and fellowships, auxiliary enterprises, hospitals, and independent operations. Excludes loans, capital expenditures, and investments.

Current Population Survey: See Appendix C, Data Sources.

Disposable income: Current income received by persons less their contributions for social insurance, personal tax, and nontax payments. It is the income available to persons for spending and saving. Nontax payments include passport fees, fines and penalties, donations, and tuitions and fees paid to schools and hospitals operated mainly by the government. See also *personal income*.

Doctor's degree: An earned degree carrying the title of doctor. The Doctor of Philosophy degree (Ph.D.) is the highest academic degree and requires mastery within a field of knowledge and demonstrated ability to perform scholarly research. Other doctorates are awarded for fulfilling specialized requirements in professional fields, such as education (Ed.D.), musical arts (D.M.A.), business administration (D.B.A.), and engineering (D.Eng. or D.E.S.). Many doctor's degrees in both academic and professional fields require an earned master's degree as a prerequisite. First-professional degrees, such as M.D. and D.D.S., are not included under this heading.

Educational and general expenditures: The sum of current funds expenditures on instruction, research, public service, academic support, student services, institutional support, operation and maintenance of plant, and awards from restricted and unrestricted funds.

Elementary school: A school classified as elementary by state and local practice and composed of any span of grades not above grade 8. A preschool or kindergarten school is included under this heading only if it is an integral part of an elementary school or a regularly established school system.

Elementary and secondary schools: As used in this publication, includes only regular schools, that is, schools that are part of state and local school systems and also most private elementary and secondary schools, both religiously affiliated and nonsectarian. Schools not included in this term are subcollegiate departments of institutions of higher education, American residential schools for exceptional children, federal schools for Indians, and federal schools on military posts and other federal installations.

Enrollment: The number of students registered in a given school unit at a given time, generally in the fall of a year.

Expenditures: Charges incurred, whether paid or unpaid, that are presumed to benefit the current fiscal year. For elementary and secondary schools, these include all charges for current outlays plus capital outlays and interest on school debt. For institutions of higher education, these include current outlays plus capital outlays. For government, these include charges net of recoveries and other correcting transactions other than for retirement of debt, investment in securities, or extension of credit. Government expenditures include only external transactions, such as the provision of perquisites or other payments in kind. Aggregates for groups of governments exclude intergovernmental transactions.

Expenditures per pupil: Charges incurred for a particular period of time divided by a student unit of measure, such as average daily attendance or average daily membership.

First-professional degree: A degree that signifies both completion of the academic requirements for beginning practice in a given profession and a level of professional skill beyond that normally required for a bachelor's degree. This degree is based on a program requiring at least 2 academic years of work before entrance and a total of at least 6 academic years of work to complete the degree program, including both prior required college work and the professional program itself. By NCES definition, first-professional degrees are awarded in the fields of dentistry (D.D.S. or D.M.D.), medicine (M.D.), optometry (O.D.), osteopathic medicine (D.O.), pharmacy (D.Phar.), podiatric medicine (D.P.M.), veterinary medicine (D.V.M.), chiropractic (D.C. or D.C.M.), law (LL.B. or J.D.), and theological professions (M.Div. or M.H.L.).

First-professional enrollment: The number of students enrolled in a professional school or program that requires at least 2 years of academic college work for entrance and a total of at least 6 years for a degree. By NCES definition, first-professional enrollment includes only students in certain programs. (See *first-professional degree* for a list of programs.)

Full-time enrollment: The number of students enrolled in higher education courses with total credit load equal to at least 75 percent of the normal full-time course load.

Full-time-equivalent (FTE) enrollment: For institutions of higher education, enrollment of full-time students, plus the full-time equivalent of part-time students as reported by institutions. In the absence of an equivalent reported by an institution, the FTE enrollment is estimated by adding one-third of part-time enrollment to full-time enrollment.

Full-time worker: In educational institutions, an employee whose position requires being on the job on school days throughout the school year at least the number of hours the schools are in session; for higher education, a member of an educational institution's staff who is employed full time.

Graduate: An individual who has received formal recognition for the successful completion of a prescribed program of studies.

Graduate enrollment: The number of students who hold the bachelor's or first-professional degree, or the equivalent, and who are working toward a master's or doctor's degree. First-professional students are counted separately. These enrollment data measure those students who are registered at a particular time during the fall. At some institutions, graduate enrollment also includes students who are in postbaccalaureate classes but not in degree programs.

High school: A secondary school offering the final years of high school work necessary for graduation, usually including grades 10, 11, and 12 (in a 6-3-3 plan), or grades 9, 10, 11, and 12 (in a 6-2-4 plan).

Higher education: Study beyond secondary school at an institution that offers programs terminating in an associate, baccalaureate, or higher degree.

Higher education institutions (traditional classifications):

4-year institution: An institution legally authorized to offer and offering at least a 4-year program of college-level studies wholly or principally creditable toward a bachelor's degree. A university is a postsecondary institution that typically includes one or more graduate professional schools.

2-year institution: An institution legally authorized to offer and offering at least a 2-year program of college-level studies that terminates in an associate degree or is principally creditable toward a baccalaureate.

Higher Education Price Index: A price index which measures average changes in the prices of goods and services purchased by colleges and universities through current-fund education and general expenditures (excluding expenditures for sponsored research and auxiliary enterprises).

Instructional staff: Full-time-equivalent number of positions, not the number of individuals occupying the positions during the school year. In local schools, it includes all public elementary and secondary (junior and senior high) day-school positions that are in the nature of teaching or the improvement of the teaching–learning situation. Includes consultants or supervisors of instruction, principals, teachers, guidance personnel, librarians, psychological personnel, and other instructional staff. Excludes administrative staff, attendance personnel, clerical personnel, and junior college staff.

Master's degree: A degree awarded for successful completion of a program generally requiring 1 or 2 years of full-time college-level study beyond the bachelor's degree. One type of master's degree, including the Master of Arts degree (M.A.) and the Master of Science degree (M.S.), is awarded in the liberal arts and sciences for advanced scholarship in a subject field or discipline and demonstrated ability to perform scholarly research. A second type of master's degree is awarded for the completion of a professionally oriented program, for example, an M.Ed. in education, an M.B.A. in business administration, an M.F.A. in fine arts, an M.M. in music, an M.S.W. in social work, or an M.P.A. in public administration. A third type of master's degree is awarded in professional fields for study beyond the first-professional degree, for example, the Master of Laws (LL.M.) and Master of Science in various medical specializations.

Part-time enrollment: The number of students enrolled in higher education courses with a total credit load of less than 75 percent of the normal full-time credit load.

Personal income: Current income received by persons from all sources minus their personal contributions for social insurance. Classified as "persons" are individuals (including owners of unincorporated firms), nonprofit institutions serving individuals, private trust funds, and private noninsured welfare funds. Personal income includes transfers (payments not resulting from current production) from government and business such as social security benefits, military pensions, and so forth, but excludes transfers among persons.

Postbaccalaureate enrollment: The number of graduate and first-professional students working toward advanced degrees and students enrolled in graduate-level classes but not enrolled in degree programs. See also *graduate enrollment* and *first-professional enrollment*.

Private institution: A school or institution that is controlled by an individual or agency other than a state, a subdivision of a state, or the federal government; that is usually supported primarily by other than public funds; and the operation of whose program rests with other than publicly elected or appointed officials.

Property tax: The sum of money collected from a tax levied against the value of property.

Public school or institution: A school or institution controlled and operated by publicly elected or appointed officials and generally deriving its primary support from public funds.

Pupil–teacher ratio: The enrollment of pupils at a given period of time, divided by the full-time-equivalent number of classroom teachers serving these pupils during the same period.

Revenues: All funds received from external sources, net of refunds and correcting transactions. Noncash transactions such as receipt of services, commodities, or other receipts "in kind" are excluded, as are funds received from the issuance of debt, liquidation of investments, or nonroutine sale of property.

Revenue receipts: Additions to assets that do not incur an obligation that must be met at some future date and do not represent exchanges of property for money. Assets must be available for expenditures.

Salary: The total amount regularly paid or stipulated to be paid to an individual, before deductions, for personal services rendered while on the payroll of a business or organization.

School: A division of the school system consisting of students in one or more grades or other identifiable groups and organized to give instruction of a defined type. One school may share a building with another school or one school may be housed in several buildings.

Secondary instructional level: The general level of instruction provided for pupils in secondary schools (generally covering grades 7 through 12 or 9 through 12) and any instruction of a comparable nature and difficulty provided for adults and youth beyond the age of compulsory school attendance.

Secondary school: A school including any span of grades beginning with the next grade following an elementary or middle school (usually 7, 8, or 9) and ending with or below grade 12. Both junior high schools and senior high schools are included.

Senior high school: A secondary school offering the final years of high school work necessary for graduation.

Student: An individual for whom instruction is provided in an educational program under the jurisdiction of a school, school system, or other educational institution. No distinction is made between the terms "student" and "pupil," although "student" may refer to one receiving instruction at any level while "pupil" refers only to one attending school at the elementary or secondary level. The term "student" is used to include individuals at all instructional levels. A student may receive instruction in a school facility or in another location, such as at home or in a hospital. Instruction may be provided by direct student-teacher interaction or by some other approved medium, such as television, radio, telephone, or correspondence.

Tax base: The collective value of sales, assets, and income components against which a tax is levied.

Total expenditure per pupil in average daily attendance: Includes all expenditures allocable to per pupil costs divided by average daily attendance. These allocable expenditures include current expenditures for regular school programs, interest on school debt, and capital outlay. Beginning in 1980-81, expenditures for administration by state governments are excluded and expenditures for other programs (summer schools, community colleges, and private schools) are included.

Unclassified students: Students who are not candidates for a degree or other formal award, although they are taking higher education courses for credit in regular classes with other students.

Undergraduate students: Students registered at an institution of higher education who are working in a program leading to a baccalaureate or other formal award below the baccalaureate, such as an associate degree.

Statistical Terms

Autocorrelation: Correlation of the error terms from different observations of the same variable. Also called *serial correlation.*

Degrees of freedom: The number of free or linearly independent sample observations used in the calculation of a statistic.

Dependent variable: A mathematical variable whose value is determined by that of one or more other variables in a function. In regression analysis, when a random variable, y, is expressed as a function of variables $x_1, x_2, \ldots,$ plus a stochastic term, then y is known as the "dependent variable."

Double exponential smoothing: A method that takes a single smoothed average component of demand and smoothes it a second time to allow for estimation of a trend effect.

Durbin-Watson statistic: A statistic testing the independence of errors in least squares regression against the alternative of first-order serial correlation. The statistic is a simple linear transformation of the first-order serial correlation of residuals and, although its distribution is unknown, it is tested by bounding statistics that follow R. L. Anderson's distribution.

Econometrics: The quantitative examination of economic trends and relationships using statistical techniques, and the development, examination, and refinement of those techniques.

Estimate: A numerical value obtained from a statistical sample and assigned to a population parameter. The particular value yielded by an estimator in a given set of circumstances or the rule by which such particular values are calculated.

Estimating equation: An equation involving observed quantities and an unknown that serves to estimate the latter.

Estimation: Estimation is concerned with inference about the numerical value of unknown population values from incomplete data, such as a sample. If a single figure is calculated for each unknown parameter, the process is called point estimation. If an interval is calculated within which the parameter is likely, in some sense, to lie, the process is called interval estimation.

Exogenous variable: Variables for which the values are determined outside the model but which influence the model.

Exponential smoothing: A method used in time series

but all are based on the supposition that more remote history has less importance than more recent history.

Ex-Ante forecast: When forecasting a dependent variable for some time period t using a model with at least one independent variable, the forecast of the dependent variable is an ex-ante forecast if the values for the independent variables for time period t are themselves not known.

Ex-Post forecast: When forecasting a dependent variable for some time period t using a model with at least one independent variable, the forecast of the dependent variable is an ex-post forecast if the values for the independent variables for time period t are the actual values. Ex-post forecasts are often used in forecast evaluation.

First-Order serial correlation: When errors in one time period are correlated directly with errors in the ensuing time period. Also called *autocorrelation.*

Forecast: An estimate of the future based on rational study and analysis of available pertinent data, as opposed to subjective prediction.

Forecasting: Assessing the magnitude which a quantity will assume at some future point in time: as distinct from "estimation," which attempts to assess the magnitude of an already existent quantity.

Forecast horizon: The number of time periods into the future which are forecasted. Forecasts for next year are said to have a 1-year forecast horizon.

Function: A mathematical correspondence that assigns exactly one element of one set to each element of the same or another set. A variable that depends on and varies with another.

Functional form: A mathematical statement of the relationship among the variables in a model.

Independent variable: In regression analysis, when a random variable, y, is expressed as a function of variables $x_1, x_2, \ldots,$ plus a stochastic term, the x's are known as "independent variables."

Lag: An event occurring at time $t + k$ $(k > 0)$ is said to lag behind an event occurring at time t, the extent of the lag being k. An event occurring k time periods before another may be regarded as having a negative lag.

Maximum likelihood estimation: A method of estimating a parameter or parameters of a population by that value (or values) that maximizes (or maximize) the likelihood of a sample.

Mean absolute percentage error (MAPE): The average value of the absolute value of errors expressed in percentage

Model: A system of postulates, data, and inferences presented as a mathematical description of a phenomenon such as an actual system or process. The actual phenomenon is represented by the model in order to explain it, to predict it, and to control it.

Ordinary least squares (OLS): The estimator that minimizes the sum of squared residuals.

Parameter: A quantity that describes a statistical population.

Projection: In relation to a time series, an estimate of future values based on a current trend.

R^2: The coefficient of determination; the square of the correlation coefficient between the dependent variable and its OLS estimate.

$\bar{R}^2$(also called the adjusted R^2): The coefficient of determination adjusted for the degrees of freedom.

Regression analysis: A statistical technique for investigating and modeling the relationship between variables.

Rho: A measure of the correlation coefficient between errors in time period t and time period t minus 1.

Serial correlation: Correlation of the error terms from different observations. Also called *autocorrelation.*

Standard error of estimate: An expression for the standard deviation of the observed values about a regression line. An estimate of the variation likely to be encountered in making predictions from the regression equation.

Time series: A set of ordered observations on a quantitative characteristic of an individual or collective phenomenon taken at different points in time. Usually the observations are successive and equally spaced in time.

Time series analysis: The branch of quantitative forecasting in which data for one variable are examined for patterns of trend, seasonality, and cycle.

Variable: A quantity that may assume any one of a set of values.

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